SERFF Tracking #: META-132350262 State Tracking #: META-132350262 Company Tracking #: CT20-82 GROUP HIPPA (RATE)

State: Pennsylvania Filing Company: Metropolitan Life Insurance Company

TOI/Sub-TOI: LTC03G Group Long Term Care/LTC03G.001 Qualified

Product Name: Group Long-Term Care Insurance

Project Name/Number: 2020 Group Rate Increase Filings /CT20-82 Group HIPAA Rate Filing

Filing at a Glance

Company: Metropolitan Life Insurance Company
Product Name: Group Long-Term Care Insurance

State: Pennsylvania

TOI: LTC03G Group Long Term Care

Sub-TOI: LTC03G.001 Qualified

Filing Type: Rate - Other (Not M.U. or G.I. Product)

Date Submitted: 04/23/2020

SERFF Tr Num: META-132350262

SERFF Status: Assigned

State Tr Num: META-132350262

State Status: Received Review in Progress

Co Tr Num: CT20-82 GROUP HIPPA (RATE) CL

Implementation On Approval

Date Requested:

Author(s): Cherise Livingston, Cory Searles, Patricia Brabant, Keith Bal

Reviewer(s): Jim Laverty (primary)

Disposition Date:
Disposition Status:
Implementation Date:

State Filing Description:

Proposed 6.82% increase on 5,460 policyholders of MetLife group LTC forms GPNP99-LTC and G.LTC6997.

SERFF Tracking #: META-132350262 State Tracking #: META-132350262 Company Tracking #: CT20-82 GROUP HIPPA (RATE)

CL

State: Pennsylvania Filing Company: Metropolitan Life Insurance Company

TOI/Sub-TOI: LTC03G Group Long Term Care/LTC03G.001 Qualified

Product Name: Group Long-Term Care Insurance

Project Name/Number: 2020 Group Rate Increase Filings /CT20-82 Group HIPAA Rate Filing

General Information

Project Name: 2020 Group Rate Increase Filings

Status of Filing in Domicile:

Project Number: CT20-82 Group HIPAA Rate Filing

Date Approved in Domicile:

Requested Filing Mode: Review & Approval

Domicile Status Comments:

Explanation for Combination/Other: Market Type: Group

Submission Type: Resubmission Previous Filing Number: META-132204151

Group Market Size: Large Group Market Type: Employer

Overall Rate Impact: Filing Status Changed: 04/23/2020

State Status Changed: 04/23/2020

Deemer Date: Created By: Cherise Livingston

Submitted By: Cherise Livingston Corresponding Filing Tracking Number: META-132350297

State TOI: LTC03G Group Long Term Care

Filing Description:

This is a filing of a premium rate schedule increase for group long-term care insurance policies. Please see our filing letter for details.

Company and Contact

Filing Contact Information

Deborah Fountas, Sr. Product Consultant dfountas@metlife.com 1300 Hall Blvd 860-656-3808 [Phone] Bloomfield, CT 06002 860-656-3815 [FAX]

Filing Company Information

Metropolitan Life Insurance CoCode: 65978 State of Domicile: New York

Company Group Code: 241 Company Type: Life MetLife Group Name: State ID Number:

200 Park Avenue FEIN Number: 13-5581829

New York, NY 10166 (212) 578-2211 ext. [Phone]

Filing Fees

Fee Required? No Retaliatory? No

Fee Explanation:

SERFF Tracking #: META-132350262 State Tracking #: META-132350262 Company Tracking #: CT20-82 GROUP HIPPA (RATE) CL

 State:
 Pennsylvania
 Filing Company:
 Metropolitan Life Insurance Company

TOI/Sub-TOI: LTC03G Group Long Term Care/LTC03G.001 Qualified

Product Name: Group Long-Term Care Insurance

Project Name/Number: 2020 Group Rate Increase Filings /CT20-82 Group HIPAA Rate Filing

Correspondence Summary

Amendments

| Schedule | Schedule Item Name | Created By | Created On | Date Submitted |
|---------------------|--------------------|--------------------|------------|----------------|
| Supporting Document | Exhibits | Cherise Livingston | 05/31/2020 | 05/31/2020 |

Filing Notes

| Subject | Note Type | Created By | Created On | Date Submitted |
|--|---------------|-------------|------------|----------------|
| I need Excel versions of the experience exhibits | Note To Filer | Jim Laverty | 04/24/2020 | 04/24/2020 |

SERFF Tracking #: META-132350262 State Tracking #: META-132350262 Company Tracking #: CT20-82 GROUP HIPPA (RATE) CL

State: Pennsylvania Filing Company: Metropolitan Life Insurance Company

TOI/Sub-TOI: LTC03G Group Long Term Care/LTC03G.001 Qualified

Product Name: Group Long-Term Care Insurance

Project Name/Number: 2020 Group Rate Increase Filings /CT20-82 Group HIPAA Rate Filing

Amendment Letter

Submitted Date: 05/31/2020

Comments:

We are in receipt of your Note to Filer April 24, 2020 in connection with the above-captioned submission.

Please see the attached Exhibits as requested in a Excel Workbook format.

Thank you for your attention to our filing.

Deborah Fountas, LTCP, PMP MetLife Long Term Care Sr. Product Consultant 860-656-3808

Changed Items:

No Form Schedule Items Changed.

No Rate Schedule Items Changed.

| Supporting Document Schedule Item Changes | | | |
|---|--|--|--|
| Satisfied - Item: | Exhibits | | |
| Comments: | Please see attached the Act Memo Exhibits | | |
| Attachment(s): | 2019_Group_ActMemo_LossRatio - PA(Exhibits).xlsx 2019 Group ActMemo LossRatio PA (Exhibits).pdf | | |

SERFF Tracking #: META-132350262 State Tracking #: META-132350262 Company Tracking #: CT20-82 GROUP HIPPA (RATE)

 State:
 Pennsylvania
 Filing Company:
 Metropolitan Life Insurance Company

TOI/Sub-TOI: LTC03G Group Long Term Care/LTC03G.001 Qualified

Product Name: Group Long-Term Care Insurance

Project Name/Number: 2020 Group Rate Increase Filings /CT20-82 Group HIPAA Rate Filing

Note To Filer

Created By:

Jim Laverty on 04/24/2020 08:33 AM

Last Edited By:

Jim Laverty

Submitted On:

04/24/2020 08:33 AM

Subject:

I need Excel versions of the experience exhibits

Comments:

Please provide the tables in this filing in an Excel workbook.

SERFF Tracking #: META-132350262 State Tracking #: META-132350262 Company Tracking #: CT20-82 GROUP HIPPA (RATE) CL

Filing Company:

Metropolitan Life Insurance Company

TOI/Sub-TOI: LTC03G Group Long Term Care/LTC03G.001 Qualified

Pennsylvania

Product Name: Group Long-Term Care Insurance

Project Name/Number: 2020 Group Rate Increase Filings /CT20-82 Group HIPAA Rate Filing

Rate Information

Rate data applies to filing.

Filing Method:

State:

Rate Change Type: %

Overall Percentage of Last Rate Revision: %

Effective Date of Last Rate Revision:

Filing Method of Last Filing:

SERFF Tracking Number of Last Filing:

Company Rate Information

| | Overall % | Overall % | Written Premium | Number of Policy | Written | Maximum % | Minimum % |
|--|-----------|-----------|-----------------|-------------------------|---------------|----------------|----------------|
| Company | Indicated | Rate | Change for | Holders Affected | Premium for | Change | Change |
| Name: | Change: | Impact: | this Program: | for this Program: | this Program: | (where req'd): | (where req'd): |
| Metropolitan Life Insurance Company | 6.820% | 6.820% | \$563,816 | 5,460 | \$8,267,092 | 6.820% | 6.820% |

SERFF Tracking #: META-132350262 State Tracking #: META-132350262 Company Tracking #: CT20-82 GROUP HIPPA (RATE) CL

State: Pennsylvania Filing Company: Metropolitan Life Insurance Company

TOI/Sub-TOI: LTC03G Group Long Term Care/LTC03G.001 Qualified

Product Name: Group Long-Term Care Insurance

Project Name/Number: 2020 Group Rate Increase Filings /CT20-82 Group HIPAA Rate Filing

Rate/Rule Schedule

| Item No. | Schedule Item Status | Document Name | Affected Form Numbers (Separated with commas) | Rate Action | Rate Action Information | Attachments |
|-------------|----------------------------|---|---|-------------|---|---|
| 1 | | Group Rates PA Generic Current with 6.82% increase | GPNP99-LTC, G.LTC6997 | Revised | Previous State Filing Number: Percent Rate Change Request: 6.82 | Group Rates_PA_Generic_Cu rrent_With_6.82%Incre ase.pdf, |

Group Long-Term Care Insurance Nursing Home Benefits Monthly Premium Rates per \$100 Daily Benefits Current Annual Rates with Proposed 6.82% Increase

| | Plans with Optional Inflation Feature | | | | | |
|----------|---------------------------------------|-----------------------------------|----------------------|----------------------|--|--|
| MAX YRS | 2 | 2 | 10 | 10 | | |
| WP DAYS | 10 | 180 | 10 | 180 | | |
| Age: | | | | | | |
| 30 | \$1.93 | \$1.45 | \$3.58 | \$2.80 | | |
| 31 | \$2.13 | \$1.59 | \$3.90 | \$3.06 | | |
| 32 | \$2.31 | \$1.73 | \$4.26 | \$3.33 | | |
| 33 | \$2.52 | \$1.90 | \$4.65 | \$3.64 | | |
| 34 | \$2.78 | \$2.07 | \$5.06 | \$3.96 | | |
| 35 | \$3.02 | \$2.28 | \$5.53 | \$4.33 | | |
| 36 | \$3.31 | \$2.48 | \$6.05 | \$4.71 | | |
| 37 38 | \$3.62 \$3.96 | \$2.71 \$2.96 | \$6.58 \$7.19 | \$5.14 \$5.61 | | |
| 39 | \$3.96 \$4.33 | \$3.24 | \$7.19 \$7.84 | \$6.12 | | |
| 40 | \$4.74 | \$3.55 | \$8.57 | \$6.67 | | |
| 41 | \$5.16 | \$3.86 | \$9.29 | \$7.23 | | |
| 42 | \$5.62 | \$4.20 | \$10.09 | \$7.85 | | |
| 43 | \$6.12 | \$4.57 | \$10.98 | \$8.52 | | |
| 44 | \$6.67 | \$4.99 | \$11.93 | \$9.25 | | |
| 45 | \$7.26 | \$5.43 | \$12.95 | \$10.04 | | |
| 46 | \$7.90 | \$5.90 | \$14.07 | \$10.88 | | |
| 47 | \$8.61 | \$6.43 | \$15.29 | \$11.81 | | |
| 48 | \$9.39 | \$7.00 | \$16.60 | \$12.83 | | |
| 49 | \$10.22 | \$7.62 | \$18.04 | \$13.93 | | |
| 50 | \$11.14 | \$8.30 | \$19.59 | \$15.10 | | |
| 51 | \$12.26 | \$9.14 | \$21.51 | \$16.56 | | |
| 52 | \$13.50 | \$10.07 | \$23.62 | \$18.15 | | |
| 53 | \$14.87 | \$11.09 | \$25.95 | \$19.92 | | |
| 54 | \$16.39 | \$12.21 | \$28.47 | \$21.84 | | |
| 55 | \$18.06 | \$13.45 | \$31.26 | \$23.95 | | |
| 56 | \$19.89 | \$14.81 | \$34.32 | \$26.26 | | |
| 57 | \$21.90 | \$16.31 | \$37.69 | \$28.78 | | |
| 58 | \$24.13 | \$17.96 | \$41.37 | \$31.57 | | |
| 59 | \$26.58 | \$19.78 | \$45.41 | \$34.60 | | |
| 60 | \$29.29 | \$21.78 | \$49.86 | \$37.95 | | |
| 61 62 | \$32.42 \$35.90 | \$24.10 \$26.67 | \$54.99 \$60.65 | \$41.79 \$46.02 | | |
| 63 | \$39.75 | \$29.50 | \$66.90 | \$50.66 | | |
| 64 | \$44.00 | \$32.65 | \$73.77 | \$55.80 | | |
| 65 | \$48.73 | \$36.14 | \$81.38 | \$61.44 | | |
| 66 | \$53.77 | \$39.85 | \$89.52 | \$67.49 | | |
| 67 | \$59.35 | \$43.95 | \$98.47 | \$74.11 | | |
| 68 | \$65.52 | \$48.45 | \$108.32 | \$81.38 | | |
| 69 | \$72.31 | \$53.44 | \$119.14 | \$89.38 | | |
| 70 | \$79.79 | \$58.92 | \$131.07 | \$98.16 | | |
| 71 | \$87.85 | \$64.79 | \$143.83 | \$107.53 | | |
| 72 | \$96.71 | \$71.24 | \$157.86 | \$117.78 | | |
| 73 | \$106.46 | \$78.33 | \$173.24 | \$129.03 | | |
| 74 | \$117.19 | \$86.13 | \$190.13 | \$141.35 | | |
| 75 | \$129.01 | \$94.72 | \$208.66 | \$154.85 | | |
| 76 | \$141.32 | \$103.64 | \$227.89 | \$168.79 | | |
| 77 | \$154.81 | \$113.41 | \$248.88 | \$183.98 | | |
| 78 | \$169.58 | \$124.09 | \$271.80 | \$200.53 | | |
| 79 | \$185.76 | \$135.79 | \$296.83 | \$218.58 | | |
| 80 | \$203.48 | \$148.60 | \$324.19 | \$238.26 | | |
| 81 82 | \$219.32 \$236.37 | \$159.61 \$171.45 | \$348.32 \$374.22 | \$255.13 \$273.21 | | |
| 83 | \$254.77 | \$171.45 \$184.17 | \$374.22 \$402.09 | \$273.21 | | |
| 84 | \$254.77 | \$10 4 .17 \$197.82 | \$432.01 | \$313.28 | | |
| 85 | \$295.94 | \$212.48 | \$464.18 | \$335.48 | | |
| 86 | \$318.98 | \$212.46 | \$498.73 | \$359.24 | | |
| 87 | \$343.79 | \$245.16 | \$535.84 | \$384.67 | | |
| 88 | \$370.54 | \$263.34 | \$575.73 | \$411.91 | | |
| 89 | \$399.37 | \$282.86 | \$618.58 | \$441.09 | | |
| 90 | \$430.44 | \$303.83 | \$664.61 | \$472.34 | | |
| | | | | | | |

| Plans | with Automa | tic Inflation | Protection F | eature |
|------------|----------------------|----------------------|----------------------|----------------------|
| | | | | |
| MAX YRS | 2 | 2 | 10 | 10 |
| WP DAYS | 10 | 180 | 10 | 180 |
| Age: 30 | \$12.59 | \$9.65 | \$23.28 | \$18.35 |
| 31 | \$13.31 | \$10.19 | \$23.28 | \$19.37 |
| 32 | \$14.07 | \$10.77 | \$25.95 | \$20.45 |
| 33 | \$14.86 | \$11.39 | \$27.39 | \$21.58 |
| 34 | \$15.69 | \$12.02 | \$28.92 | \$22.77 |
| 35 | \$16.59 | \$12.70 | \$30.53 | \$24.02 |
| 36 | \$17.52 | \$13.42 \$14.18 | \$32.23 | \$25.36 |
| 37 38 | \$18.51 \$19.56 | \$14.16 | \$34.01 \$35.92 | \$26.77 \$28.25 |
| 39 | \$20.66 | \$15.81 | \$37.92 | \$29.81 |
| 40 | \$21.82 | \$16.70 | \$40.03 | \$31.46 |
| 41 | \$23.06 | \$17.65 | \$42.24 | \$33.18 |
| 42 | \$24.37 | \$18.65 | \$44.57 | \$34.99 |
| 43 | \$25.74 | \$19.69 | \$47.01 | \$36.91 |
| 44 45 | \$27.20 \$28.75 | \$20.80 \$21.98 | \$49.61 \$52.34 | \$38.93 \$41.05 |
| 45 46 | \$28.75 \$30.37 | \$21.98 | \$52.34 \$55.24 | \$41.05 \$43.29 |
| 47 | \$32.09 | \$24.52 | \$58.27 | \$45.64 |
| 48 | \$33.90 | \$25.91 | \$61.50 | \$48.14 |
| 49 | \$35.81 | \$27.37 | \$64.88 | \$50.77 |
| 50 | \$37.84 | \$28.92 | \$68.46 | \$53.55 |
| 51 | \$40.24 | \$30.73 | \$72.65 | \$56.76 |
| 52 53 | \$42.78 \$45.47 | \$32.67 \$34.73 | \$77.09 \$81.79 | \$60.20 \$63.82 |
| 54 | \$48.36 | \$36.91 | \$86.80 | \$67.69 |
| 55 | \$51.41 | \$39.23 | \$92.10 | \$71.77 |
| 56 | \$54.66 | \$41.71 | \$97.74 | \$76.11 |
| 57 | \$58.11 | \$44.33 | \$103.71 | \$80.70 |
| 58 | \$61.78 | \$47.12 | \$110.05 | \$85.57 |
| 59 | \$65.68 | \$50.09 | \$116.79 | \$90.73 |
| 60 61 | \$69.84 \$74.66 | \$53.24 \$56.89 | \$123.92 \$132.14 | \$96.21 \$102.49 |
| 62 | \$79.82 | \$60.79 | \$140.88 | \$109.15 |
| 63 | \$85.33 | \$64.96 | \$150.23 | \$116.26 |
| 64 | \$91.21 | \$69.40 | \$160.19 | \$123.84 |
| 65 | \$97.52 | \$74.17 | \$170.82 | \$131.90 |
| 66 | \$104.38 | \$79.31 | \$182.33 | \$140.61 |
| 67 68 | \$111.72 \$119.57 | \$84.82 \$90.72 | \$194.64 \$207.76 | \$149.89 \$159.78 |
| 69 | \$127.98 | \$97.02 | \$221.77 | \$170.34 |
| 70 | \$136.99 | \$103.76 | \$236.73 | \$181.56 |
| 71 | \$146.80 | \$111.06 | \$252.98 | \$193.69 |
| 72 | \$157.34 | \$118.88 | \$270.33 | \$206.63 |
| 73 | \$168.59 | \$127.25 | \$288.87 | \$220.43 |
| 74 75 | \$180.70 \$193.64 | \$136.23 \$145.81 | \$308.70 \$329.87 | \$235.16 \$250.88 |
| 76 | \$207.40 | \$155.96 | \$352.15 | \$267.26 |
| 77 | \$222.12 | \$166.80 | \$375.94 | \$284.73 |
| 78 | \$237.90 | \$178.40 | \$401.33 | \$303.35 |
| 79 | \$254.80 | \$190.82 | \$428.43 | \$323.17 |
| 80 | \$272.90 \$280.57 | \$204.10 | \$457.39 | \$344.29 \$362.64 |
| 81 82 | \$289.57 \$307.26 | \$215.70 \$227.96 | \$483.52 \$511.13 | \$362.64 \$381.97 |
| 83 | \$307.26 | \$227.96 | \$511.13 | \$402.33 |
| 84 | \$345.93 | \$254.64 | \$571.20 | \$423.77 |
| 85 | \$367.05 | \$269.12 | \$603.83 | \$446.35 |
| 86 | \$389.49 | \$284.42 | \$638.32 | \$470.11 |
| 87 | \$413.28 | \$300.59 | \$674.79 | \$495.19 |
| 88 | \$438.51 | \$317.69 | \$713.34 | \$521.56 |
| 89 | \$465.29 \$403.71 | \$335.76 \$354.86 | \$754.10 \$797.19 | \$549.36 \$578.63 |
| 90 | \$493.71 | \$354.86 | ⊅/9/.19 | \$578.63 |

Group Long-Term Care Insurance - Comprehensive and Dual Level Reimbursement Benefits Monthly Premium Rates per \$100 Daily Benefits Current Annual Rates with Proposed 6.82% Increase

| | | Pla | ns with O | otional Infl | ation Feat | ture | | |
|----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| MAX YRS | 2 | 2 | 2 | 2 | 10 | 10 | 10 | 10 |
| HC % | 50 | 50 | 100 | 100 | 50 | 50 | 100 | 100 |
| WP DAYS | 10 | 180 | 10 | 180 | 10 | 180 | 10 | 180 |
| Age: | | | | | | | | |
| 30 | \$4.86 | \$3.61 | \$7.08 | \$5.31 | \$6.60 | \$5.05 | \$10.21 | \$7.73 |
| 31 | \$5.20 | \$3.86 | \$7.51 | \$5.64 | \$7.08 | \$5.43 | \$10.88 | \$8.26 |
| 32 | \$5.54 | \$4.12 | \$7.99 | \$5.99 | \$7.59 | \$5.81 | \$11.60 | \$8.80 |
| 33 | \$5.92 | \$4.40 | \$8.49 | \$6.37 | \$8.15 | \$6.24 | \$12.36 | \$9.39 |
| 34 | \$6.32 | \$4.71 | \$9.02 | \$6.77 | \$8.74 | \$6.71 | \$13.18 | \$10.02 |
| 35 | \$6.72 | \$5.00 | \$9.57 | \$7.20 | \$9.36 | \$7.20 | \$14.05 | \$10.69 \$11.40 |
| 36 37 | \$7.19 \$7.65 | \$5.36 \$5.71 | \$10.16 \$10.81 | \$7.64 \$8.13 | \$10.05 \$10.78 | \$7.73 \$8.30 | \$14.98 \$15.98 | \$11.40 |
| 38 | \$8.18 | \$6.10 | \$11.47 | \$8.63 | \$11.56 | \$8.91 | \$17.04 | \$12.10 |
| 39 | \$8.72 | \$6.52 | \$12.19 | \$9.19 | \$12.39 | \$9.56 | \$18.15 | \$13.83 |
| 40 | \$9.29 | \$6.95 | \$12.95 | \$9.76 | \$13.28 | \$10.25 | \$19.37 | \$14.76 |
| 41 | \$10.02 | \$7.50 | \$13.91 | \$10.49 | \$14.35 | \$11.08 | \$20.83 | \$15.89 |
| 42 | \$10.81 | \$8.10 | \$14.94 | \$11.26 | \$15.48 | \$11.95 | \$22.43 | \$17.11 |
| 43 | \$11.64 | \$8.74 | \$16.04 | \$12.11 | \$16.72 | \$12.91 | \$24.13 | \$18.42 |
| 44 | \$12.55 | \$9.42 | \$17.24 | \$13.02 | \$18.04 | \$13.95 | \$25.96 | \$19.83 |
| 45 | \$13.53 | \$10.16 | \$18.52 | \$14.00 | \$19.51 | \$15.07 | \$27.95 | \$21.36 |
| 46 | \$14.57 | \$10.97 | \$19.89 | \$15.05 | \$21.05 | \$16.28 | \$30.09 | \$22.99 |
| 47 48 | \$15.70 | \$11.84 | \$21.37 | \$16.18 | \$22.72 | \$17.58 | \$32.39 | \$24.75 |
| 48 | \$16.94 \$18.24 | \$12.76 \$13.76 | \$22.96 \$24.65 | \$17.39 \$18.69 | \$24.54 \$26.50 | \$18.97 \$20.51 | \$34.86 \$37.52 | \$26.65 \$28.68 |
| 50 | \$19.69 | \$14.84 | \$26.50 | \$20.10 | \$28.60 | \$20.51 | \$40.38 | \$30.90 |
| 51 | \$21.41 | \$16.17 | \$28.68 | \$21.78 | \$31.19 | \$24.15 | \$43.82 | \$33.53 |
| 52 | \$23.30 | \$17.59 | \$31.07 | \$23.61 | \$33.98 | \$26.32 | \$47.56 | \$36.40 |
| 53 | \$25.33 | \$19.16 | \$33.66 | \$25.58 | \$37.07 | \$28.68 | \$51.59 | \$39.50 |
| 54 | \$27.57 | \$20.86 | \$36.45 | \$27.73 | \$40.40 | \$31.28 | \$56.00 | \$42.86 |
| 55 | \$29.98 | \$22.71 | \$39.47 | \$30.05 | \$44.05 | \$34.09 | \$60.76 | \$46.53 |
| 56 | \$32.62 | \$24.74 | \$42.74 | \$32.57 | \$48.00 | \$37.18 | \$65.94 | \$50.49 |
| 57 | \$35.50 | \$26.92 | \$46.26 | \$35.30 | \$52.35 | \$40.54 | \$71.56 | \$54.80 |
| 58 | \$38.59 | \$29.32 | \$50.12 | \$38.26 | \$57.06 | \$44.19 | \$77.65 | \$59.48 |
| 59 | \$41.99 | \$31.92 | \$54.28 | \$41.47 | \$62.20 | \$48.18 | \$84.26 | \$64.56 |
| 60 61 | \$45.70 | \$34.76 \$38.04 | \$58.78 | \$44.93 | \$67.81 \$74.30 | \$52.51 \$57.52 | \$91.43 \$99.58 | \$70.05 \$76.28 |
| 62 | \$49.98 \$54.68 | \$41.65 | \$63.92 \$69.53 | \$48.88 \$53.21 | \$81.40 | \$62.99 | \$108.43 | \$83.08 |
| 63 | \$59.80 | \$45.57 | \$75.62 | \$57.90 | \$89.18 | \$69.02 | \$118.10 | \$90.47 |
| 64 | \$65.43 | \$49.87 | \$82.26 | \$62.99 | \$97.71 | \$75.59 | \$128.60 | \$98.51 |
| 65 | \$71.57 | \$54.59 | \$89.46 | \$68.56 | \$107.04 | \$82.79 | \$140.06 | \$107.28 |
| 66 | \$78.28 | \$59.69 | \$97.35 | \$74.59 | \$117.11 | \$90.52 | \$152.31 | \$116.62 |
| 67 | \$85.63 | \$65.29 | \$105.95 | \$81.16 | \$128.12 | \$98.98 | \$165.66 | \$126.80 |
| 68 | \$93.65 | \$71.41 | \$115.30 | \$88.32 | \$140.18 | \$108.22 | \$180.15 | \$137.84 |
| 69 | \$102.43 | \$78.07 | \$125.46 | \$96.10 | \$153.35 | \$118.34 | \$195.92 | \$149.87 |
| 70 | \$112.03 | \$85.40 | \$136.55 | \$104.53 | \$167.77 | \$129.38 | \$213.08 | \$162.93 |
| 71 72 | \$122.64 | \$93.41 | \$148.82 | \$113.83 | \$183.45 \$200.55 | \$141.30 \$154.37 | \$231.51 | \$176.89 \$192.07 |
| 73 | \$134.24 \$146.97 | \$102.16 \$111.76 | \$162.18 \$176.76 | \$123.92 \$134.94 | \$200.55 | \$168.59 | \$251.54 \$273.30 | \$208.56 |
| 74 | \$160.88 | \$122.23 | \$192.64 | \$146.90 | \$239.76 | \$184.17 | \$296.95 | \$226.46 |
| 75 | \$176.12 | \$133.70 | \$209.93 | \$159.94 | \$262.11 | \$201.14 | \$322.65 | \$245.89 |
| 76 | \$193.16 | \$146.39 | \$229.41 | \$174.47 | \$286.84 | \$219.66 | \$351.18 | \$267.16 |
| 77 | \$211.86 | \$160.26 | \$250.67 | \$190.30 | \$313.90 | \$239.90 | \$382.23 | \$290.27 |
| 78 | \$232.37 | \$175.47 | \$273.92 | \$207.55 | \$343.53 | \$261.98 | \$416.02 | \$315.40 |
| 79 | \$254.84 | \$192.13 | \$299.31 | \$226.38 | \$375.93 | \$286.11 | \$452.79 | \$342.69 |
| 80 | \$279.49 | \$210.34 | \$327.05 | \$246.93 | \$411.39 | \$312.46 | \$492.81 | \$372.34 |
| 81 | \$305.74 | \$228.79 | \$357.11 | \$268.17 | \$448.07 | \$338.44 | \$535.20 | \$402.31 |
| 82 | \$334.42 | \$248.85 | \$389.95 | \$291.26 | \$488.01 | \$366.57 | \$581.21 | \$434.66 |
| 83 | \$365.81 | \$270.67 | \$425.80 | \$316.29 | \$531.51 | \$397.06 | \$631.20 | \$469.63 |
| 84 | \$400.13 | \$294.40 | \$464.94 | \$343.53 | \$578.90 | \$430.07 | \$685.47 | \$507.43 |
| 85 86 | \$437.68 \$478.75 | \$320.21 \$348.30 | \$507.68 \$554.35 | \$373.08 \$405.18 | \$630.49 \$686.70 | \$465.83 \$504.55 | \$744.41 \$808.42 | \$548.28 \$592.39 |
| 87 | \$523.66 | \$378.85 | \$605.32 | \$440.04 | \$747.93 | \$546.49 | \$877.94 | \$640.07 |
| 88 | \$572.81 | \$412.08 | \$660.97 | \$477.89 | \$814.59 | \$591.92 | \$953.43 | \$691.55 |
| 89 | \$626.55 | \$448.22 | \$721.74 | \$519.02 | \$887.21 | \$641.14 | \$1,035.42 | \$747.20 |

| | | | | | on Protection | | | |
|------------|----------------------|----------------------|----------------------|----------------------|------------------------|----------------------|--------------------------|------------------|
| MAX YRS | 2 | 2 | 2 | 2 | 10 | 10 | 10 | 10 |
| HC % | 50 | 50 | 100 | 100 | 50 | 50 | 100 | 100 |
| WP | 10 | 180 | 10 | 180 | 10 | 180 | 10 | 180 |
| DAYS | | | | | | | | |
| Age: 30 | \$21.96 | \$16.80 | \$25,71 | \$19.82 | \$33.05 | \$25.96 | \$38.48 | \$30. |
| 31 | \$23.03 | \$17.63 | \$26.94 | \$20.76 | \$34.71 | \$27.29 | \$40.37 | \$31.0 |
| 32 | \$24.13 | \$18.49 | \$28.20 | \$21.75 | \$36.48 | \$28.68 | \$42.34 | \$33. |
| 33 34 | \$25.31 \$26.53 | \$19.39 \$20.35 | \$29.54 \$30.91 | \$22.78 \$23.86 | \$38.32 \$40.27 | \$30.14 \$31.69 | \$44.44 \$46.63 | \$34. \$36. |
| 35 | \$27.84 | \$21.33 | \$32.39 | \$25.00 | \$42.29 | \$33.31 | \$48.93 | \$38. |
| 36 | \$29.16 | \$22.38 | \$33.93 | \$26.19 | \$44.44 | \$34.99 | \$51.35 | \$40. |
| 37 | \$30.59 | \$23.48 | \$35.52 | \$27.43 | \$46.68 | \$36.77 | \$53.87 | \$42. |
| 38 39 | \$32.08 \$33.63 | \$24.64 \$25.84 | \$37.18 \$38.94 | \$28.75 \$30.11 | \$49.05 \$51.53 | \$38.65 \$40.61 | \$56.52 \$59.31 | \$44. \$46. |
| 40 | \$35.25 | \$27.11 | \$40.78 | \$31.55 | \$54.14 | \$42.67 | \$62.22 | \$48. |
| 41 | \$37.08 | \$28.51 | \$42.86 | \$33.16 | \$56.99 | \$44.92 | \$65.47 | \$51. |
| 42 43 | \$39.00 \$41.03 | \$30.01 | \$45.02 \$47.33 | \$34.86 | \$59.99 | \$47.30 | \$68.87 \$72.45 | \$54. |
| 44 | \$41.03 \$43.13 | \$31.59 \$33.22 | \$47.33 \$49.74 | \$36.65 \$38.52 | \$63.15 \$66.47 | \$49.80 \$52.42 | \$76.19 | \$57. \$59. |
| 45 | \$45.39 | \$34.96 | \$52.26 | \$40.47 | \$69.98 | \$55.18 | \$80.16 | \$63. |
| 46 | \$47.74 | \$36.79 | \$54.93 | \$42.57 | \$73.66 | \$58.09 | \$84.32 | \$66. |
| 47 | \$50.19 | \$38.69 | \$57.71 | \$44.75 | \$77.55 | \$61.15 | \$88.70 | \$69. |
| 48 49 | \$52.80 \$55.55 | \$40.72 \$42.86 | \$60.64 \$63.72 | \$47.02 \$49.43 | \$81.63 \$85.94 | \$64.37 \$67.77 | \$93.31 \$98.16 | \$73. \$77. |
| 50 | \$58.42 | \$45.09 | \$66.95 | \$51.97 | \$90.46 | \$71.32 | \$103.25 | \$81. |
| 51 | \$61.75 | \$47.67 | \$70.69 | \$54.87 | \$95.72 | \$75.46 | \$109.14 | \$85. |
| 52 | \$65.29 | \$50.42 | \$74.65 | \$57.94 | \$101.30 | \$79.85 | \$115.38 | \$90. |
| 53 54 | \$69.02 \$72.96 | \$53.32 \$56.38 | \$78.79 \$83.19 | \$61.21 \$64.64 | \$107.18 \$113.42 | \$84.49 \$89.39 | \$121.99 \$128.96 | \$95. \$101. |
| 55 | \$77.10 | \$59.62 | \$87.84 | \$68.26 | \$120.02 | \$94.58 | \$136.31 | \$107. |
| 56 | \$81.51 | \$63.05 | \$92.73 | \$72.08 | \$127.01 | \$100.07 | \$144.11 | \$113. |
| 57 58 | \$86.16 \$91.09 | \$66.68 \$70.50 | \$97.89 \$103.36 | \$76.11 \$80.40 | \$134.40 | \$105.88 \$112.01 | \$152.37 \$161.07 | \$119. \$126. |
| 59 | \$96.30 | \$70.50 | \$103.36 | \$84.89 | \$142.22 \$150.51 | \$112.01 | \$170.27 | \$133. |
| 60 | \$101.79 | \$78.84 | \$115.23 | \$89.66 | \$159.27 | \$125.42 | \$179.99 | \$141. |
| 61 | \$108.10 | \$83.77 | \$122.16 | \$95.09 | \$169.30 | \$133.25 | \$191.09 | \$150. |
| 62 | \$114.80 \$121.91 | \$88.97 \$94.48 | \$129.50 \$137.31 | \$100.82 \$106.88 | \$179.97 \$191.30 | \$141.58 \$150.45 | \$202.87 \$215.37 | \$159. \$169. |
| 63 64 | \$121.91 | \$100.37 | \$137.31 | \$113.35 | \$203.35 | \$150.45 | \$215.37 | \$179. |
| 65 | \$137.50 | \$106.61 | \$154.34 | \$120.19 | \$216.16 | \$169.87 | \$242.76 | \$190. |
| 66 | \$146.38 | \$113.47 | \$164.05 | \$127.69 | \$230.10 | \$180.70 | \$258.05 | \$202. |
| 67 | \$155.83 | \$120.75 | \$174.39 | \$135.68 | \$244.94 | \$192.22 | \$274.32 | \$214. \$228. |
| 68 69 | \$165.89 \$176.61 | \$128.49 \$136.77 | \$185.38 \$197.03 | \$144.15 \$153.17 | \$260.76 \$277.57 | \$204.49 \$217.53 | \$291.61 \$309.98 | \$228. \$242. |
| 70 | \$188.02 | \$145.55 | \$209.44 | \$162.74 | \$295.46 | \$231.39 | \$329.51 | \$257. |
| 71 | \$200.80 | \$155.27 | \$223.38 | \$173.40 | \$315.09 | \$246.49 | \$350.88 | \$274. |
| 72 73 | \$214.44 \$229.05 | \$165.67 \$176.78 | \$238.25 \$254.11 | \$184.76 \$196.87 | \$336.00 \$358.28 | \$262.56 \$279.70 | \$373.60 \$397.83 | \$291. \$310. |
| 74 | \$244.62 | \$188.61 | \$254.11 | \$209.75 | \$382.08 | \$279.70 | \$423.64 | \$329. |
| 75 | \$261.25 | \$201.23 | \$289.09 | \$223.49 | \$407.42 | \$317.38 | \$451.08 | \$350. |
| 76 | \$280.21 | \$215.40 | \$309.84 | \$239.08 | \$435.89 | \$338.82 | \$482.23 | \$374. |
| 77 78 | \$300.52 \$322.33 | \$230.60 \$246.85 | \$332.08 \$355.93 | \$255.77 \$273.63 | \$466.34 \$498.91 | \$361.72 \$386.16 | \$515.55 \$551.16 | \$399. \$425. |
| 76 79 | \$345.71 | \$264.24 | \$381.50 | \$292.73 | \$533.76 | \$412.25 | \$589.21 | \$454. |
| 80 | \$370.80 | \$282.87 | \$408.90 | \$313.15 | \$571.05 | \$440.10 | \$629.92 | \$484. |
| 81 | \$399.09 | \$302.64 | \$440.50 | \$335.41 | \$611.61 | \$468.68 | \$675.31 | \$516. |
| 82 83 | \$429.52 \$462.28 | \$323.79 \$346.41 | \$474.58 \$511.29 | \$359.27 \$384.79 | \$655.04 \$701.54 | \$499.10 \$531.50 | \$723.96 \$776.13 | \$550. \$587. |
| 84 | \$497.57 | \$346.41 | \$511.29 | \$412.14 | \$701.54 | \$531.50 | \$832.06 | \$587. \$626. |
| 85 | \$535.51 | \$396.52 | \$593.44 | \$441.43 | \$804.73 | \$602.75 | \$892.02 | \$667. |
| 86 | \$576.36 | \$424.22 | \$639.34 | \$472.82 | \$861.87 | \$641.89 | \$956.30 | \$711. |
| 87 | \$620.34 | \$453.87 | \$688.78 | \$506.42 | \$923.07 | \$683.55 | \$1,025.22 | \$758. |
| 88 89 | \$667.65 \$718.58 | \$485.59 \$519.53 | \$742.06 \$799.44 | \$542.41 \$580.97 | \$988.61 \$1,058.81 | \$727.94 \$775.20 | \$1,099.09 \$1,178.29 | \$808. \$862. |
| 90 | \$773.39 | \$555.82 | \$861.28 | \$622.27 | \$1,134.00 | \$825.53 | \$1,176.29 | \$919. |

SERFF Tracking #: META-132350262 State Tracking #: META-132350262 Company Tracking #: CT20-82 GROUP HIPPA (RATE) CL

Filing Company:

Metropolitan Life Insurance Company

TOI/Sub-TOI: LTC03G Group Long Term Care/LTC03G.001 Qualified

Pennsylvania

Product Name: Group Long-Term Care Insurance

Project Name/Number: 2020 Group Rate Increase Filings /CT20-82 Group HIPAA Rate Filing

Supporting Document Schedules

State:

| Satisfied - Item: | Transmittal Letter (A&H) |
|-----------------------------|--|
| Comments: | Please see attached the Filing Letter |
| Attachment(s): | PA_Filing Letter A - Approval States with Sitused Groups_2020.pdf |
| Item Status: | 1 A_1 IIIIIg Letter A - Approvar States with Sitused Groups_2020.pdf |
| Status Date: | |
| Otatus Date. | |
| Bypassed - Item: | Actuarial Certification (A&H) |
| Bypass Reason: | not applicable |
| Attachment(s): | |
| Item Status: | |
| Status Date: | |
| Satisfied - Item: | Actuarial Mamarandum and Evalanatory Information (A&H) |
| Comments: | Actuarial Memorandum and Explanatory Information (A&H) Please see attached the Actuarial Memorandum and Explanatory Information (A&H) |
| | Group_2019_ActMemo- (SITUS_Not_ET) RateStability - PA.pdf |
| Attachment(s): Item Status: | Group_2019_Activierno- (S1105_Not_E1) RateStability - PA.pdi |
| Status Date: | |
| Status Date: | |
| Bypassed - Item: | Advertisements (A&H) |
| Bypass Reason: | not applicable |
| Attachment(s): | |
| Item Status: | |
| Status Date: | |
| Bypassed - Item: | Authorization to File (A&H) |
| Bypass Reason: | not applicable |
| Attachment(s): | |
| Item Status: | |
| Status Date: | |
| Bypassed - Item: | Insert Page Explanation (A&H) |
| Bypass Reason: | not applicable |
| Attachment(s): | ·· |
| Item Status: | |
| Status Date: | |
| | |

| SERFF Tracking #: | META-132350262 | State Tracking #: | META-132350262 | | Company Tracking #: | CT20-82 GROUP HIPPA (RATE) CL |
|---|-----------------|---|-------------------|-----------------|----------------------|-------------------------------|
| State: TOI/Sub-TOI: Product Name: Project Name/Number: | Group Long-Teri | Long Term Care/LTC03G.00 m Care Insurance e Increase Filings /CT20-82 | 01 Qualified | Filing Company: | Metropolitan Life II | nsurance Company |
| Bypassed - Item: | R | Rate Table (A&H) | | | | |
| Bypass Reason: | | ot applicable | | | | |
| Attachment(s): | " | ot applicable | | | | |
| Item Status: | | | | | | |
| Status Date: | | | | | | |
| Bypassed - Item: | R | Replacement Form with | Highlighted Chan | ges (A&H) | | |
| Bypass Reason: | | ot applicable | | _ | | |
| Attachment(s): | | | | | | |
| Item Status: | | | | | | |
| Status Date: | | | | | | |
| Bypassed - Item: | A | dvertisement Complia | nce Certification | | | |
| Bypass Reason: | n | ot applicable | | | | |
| Attachment(s): | | | | | | |
| Item Status: | | | | | | |
| Status Date: | | | | | | |
| Bypassed - Item: | R | Reserve Calculation (A | §Н) | | | |
| Bypass Reason: | n | ot applicable | | | | |
| Attachment(s): | | | | | | |
| Item Status: | | | | | | |
| Status Date: | | | | | | |
| Bypassed - Item: | | ariability Explanation (| A&H) | | | |
| Bypass Reason: | n | ot applicable | | | | |
| Attachment(s): | | | | | | |
| Item Status: | | | | | | |
| Status Date: | | | | | | |
| Satisfied - Item: | | olicyholder Letter | | | | |
| Comments: | P | Please see attached the |) | | | |
| Attachment(s): | G | Group Letter_Generic_r | new template_1-20 |)20.pdf | | |
| Item Status: | | | | | | |
| Status Date: | | | | | | |
| Satisfied - Item: | C | Coverage Change | | | | |

SERFF Tracking #: META-132350262 State Tracking #: META-132350262 Company Tracking #: CT20-82 GROUP HIPPA (RATE) CL Pennsylvania Filing Company: Metropolitan Life Insurance Company State: TOI/Sub-TOI: LTC03G Group Long Term Care/LTC03G.001 Qualified Group Long-Term Care Insurance Product Name: 2020 Group Rate Increase Filings /CT20-82 Group HIPAA Rate Filing Project Name/Number: **Comments:** Please see attached the Attachment(s): Generic Group Cov Chg Form_1-2020.pdf **Item Status: Status Date:** Satisfied - Item: NAIC Transmittal Form Comments: Please see attached the NAIC Transmittal Form Attachment(s): Group NAIC Transmittal_PA.pdf **Item Status: Status Date:** Satisfied - Item: **Exhibits** Comments: Please see attached the Act Memo Exhibits 2019 Group ActMemo LossRatio - PA(Exhibits).xlsx Attachment(s): 2019 Group ActMemo LossRatio PA (Exhibits).pdf

Item Status: Status Date:

SERFF Tracking #: META-132350262 State Tracking #: META-132350262 Company Tracking #: CT20-82 GROUP HIPPA (RATE) CL

State: Pennsylvania Filing Company: Metropolitan Life Insurance Company

TOI/Sub-TOI: LTC03G Group Long Term Care/LTC03G.001 Qualified

Product Name: Group Long-Term Care Insurance

Project Name/Number: 2020 Group Rate Increase Filings /CT20-82 Group HIPAA Rate Filing

Attachment 2019_Group_ActMemo_LossRatio - PA(Exhibits).xlsx is not a PDF document and cannot be reproduced here.

Metropolitan Life Insurance Company 1300 Hall Boulevard Bloomfield, CT 06002 Tel 860-656-3813 Fax 860-656-3815 Treilly1@metlife.com



Thomas G. Reilly
Assistant Vice President
Product Management & Compliance

April 23, 2020

Pennsylvania Insurance Department 1326 Strawberry Square, 13th Floor Harrisburg, Pennsylvania 17120

Re: Group Long-Term Care Insurance – Premium Rate Schedule Increase Filing Our NAIC Company No. is 65978

Our FEIN is 13-5581829

Dear Sir/Madam:

We are filing, for your review and approval, a request for a 6.82% premium rate schedule increase with respect to certain group long-term care insurance policies issued for delivery (sitused) in your state before July 1, 2010.

Please note that the requested increase will not apply to any group long-term care insurance policy issued with rates that were based on the prospective premium rate schedule increase that was approved by your Department (those group long-term care insurance policies were issued on or after July 1, 2010).

Per the discussion on December 31, 2019 with Jim Laverty (Pennsylvania Insurance Department), Tom Reilly and Deb Fountas (Metropolitan Life Insurance Company("MetLife"), MetLife had previously implemented a 45% rate increase in 2011.

We will only implement the premium rate schedule increase after we have received approval from your Department and will apply the increase to all certificates issued under group long-term care insurance policies sitused in your state except those certificates issued to residents of other states whose requirements are asserted to apply to rate increases for certificates issued in such other states regardless of group policy situs. As to certificates issued in any such other state, we will implement the increase approved by that state, regardless of whether or not you approved this request.

The premium rate schedule increase for which we are seeking approval will apply to the following group long-term care insurance policy forms:

- GPNP99-LTC approved by your Department on July 17,2000 and certificates issued thereunder; and
- G.LTC6997 approved by your Department on January 26, 1999 and certificates issued thereunder.

Please note that these forms are currently not being marketed.

We are submitting an actuarial memorandum and rates in support of our request.

Company Rate Information Provided on SERFF

Please note the following with respect to the information entered under Company Rate Information in the SERFF system:

"Written Premium Change for this Program" and "Written Premium for this Program" only reflects premium information for certificates issued to residents of your state under group policies issued from within and from outside of your state.

The "# of Policyholders Affected for this Program" only reflects the number of certificates issued to residents of your state under group policies issued in and outside of your state.

Notification to Certificateholders of Premium Rate Schedule Increase

We intend to provide certificateholders with a minimum of 60 days advance written notice prior to the first effective date of the premium rate schedule increase. In our written notification we will explain that:

- The amount of the increase requested in this filing and the amount of the increase approved by your Department;
- If the full amount of the requested increase is approved by your Department, a statement that the certificate may be subject to rate increases in the future. If the amount of the increase approved by your Department is less than the amount requested in this filing, the notice will include the same statement and may include an additional statement about the likelihood of MetLife making future rate increase requests on the certificate. The wording of this additional statement will depend on the degree of variance from the amount requested;
- The current premium rate and the premium rate after the increase is applied;
- A statement that the premium rate adjustment will be effective on the certificate's premium due date.
- The following options available to the certificateholder:
 - the certificateholder can continue his/her current coverage by paying the new premium amount when due;
 - 2. the certificateholder can reduce his/her coverage to lessen the impact of the premium rate schedule increase if the current level of coverage permits a reduction;
 - 3. if the certificateholder's coverage lapses (due to nonpayment of premium or cancellation) at any time from the date of our written notification up to 120 days following the first due date of the new premium ("Election Period"), that the certificateholder will have nonforfeiture coverage as follows:
 - a. if the certificateholder's coverage does not include a nonforfeiture feature we will issue the certificateholder the Limited Coverage Upon Lapse Following Premium Increase Endorsement ("LCUL") described below;
 - b. if the certificateholder's coverage includes a nonforfeiture feature, but that feature will
 provide no benefit or a lower benefit than LCUL (as determined by us), we will issue the
 certificateholder LCUL and pay benefits under LCUL rather than the nonforfeiture
 feature included in the certificateholder's coverage;
 - c. if the certificateholder's coverage includes a nonforfeiture feature that will pay benefits equal to or greater than LCUL (as determined by us), we will provide nonforfeiture coverage under the feature already included in the certificateholder's coverage;
 - d. if the certificateholder's coverage includes a nonforfeiture feature that will pay benefits that are different than the benefits provided under LCUL such that we determine that it would be appropriate to provide the certificateholder with a choice of retaining their existing nonforfeiture feature or electing LCUL, we will present LCUL as an option that the certificateholder can elect instead of the nonforfeiture feature included in the certificate. In this scenario, LCUL will only be issued and applied if specifically elected by the certificateholder instead of the nonforfeiture feature included in his/her certificate;

e. if the certificateholder qualifies for coverage under Contingent Benefit Upon Lapse as a
result of the premium rate schedule increase, we will instead provide coverage under
LCUL since the benefit payable under LCUL is equal to the benefit payable under
Contingent Benefit Upon Lapse.

We will not provide coverage under more than one feature that provides for a nonforfeiture benefit.

We have included a copy of our certificateholder notification letter and coverage change form for informational purposes.

Limited Coverage Upon Lapse Following Premium Increase Endorsement

In connection with our request for approval of a premium rate schedule increase, we are extending the use of the following forms, which were previously acknowledged by your Department on 10/12/11. Please refer to the section above titled Notification to Certificateholders of Premium Rate Schedule Increase for additional information on how we intend to use these forms.

Form Number: Description:

G.LCUL LIMITED COVERAGE UPON LAPSE FOLLOWING PREMIUM INCREASE

ENDORSEMENT. Endorsement to be issued to certificateholders whose coverage lapsed during the Election Period (described above) and (1) whose policies did not include a nonforfeiture benefit; or (2) who qualified for

Contingent Benefit Upon Lapse as a result of the premium rate schedule

increase.

G.LCUL-1 LIMITED COVERAGE UPON LAPSE FOLLOWING PREMIUM INCREASE

ENDORSEMENT. Endorsement to be issued to certificateholders whose coverage lapsed during the Election Period (described above) and whose policies included a nonforfeiture benefit that did not provide a benefit equal to or

greater than that provided by the LCUL.

G.LCUL-2 LIMITED COVERAGE UPON LAPSE FOLLOWING PREMIUM INCREASE

ENDORSEMENT. Endorsement to be issued to certificateholders whose coverage lapsed during the Election Period (described above) and whose policies included a nonforfeiture benefit that will pay benefits different than the benefits provided under LCUL and who chose LCUL instead of the nonforfeiture

benefit included in their coverage.

The contact person for this filing is:

Deborah Fountas 1300 Hall Boulevard Bloomfield, CT 06002 Telephone: 860-656-3808 dfountas@metlife.com

Thank you for your attention to our filing. We look forward to hearing from you.

Sincerely,

Thomas G. Reilly Assistant Vice President

Product Management & Compliance

Thumas S. Reilly

Metropolitan Life Insurance Company 1300 Hall Boulevard, Bloomfield, CT 06002

Email: mark.newton@metlife.com

Mark D. Newton, FSA, MAAA



April 22, 2020 Pennsylvania Department of Insurance

Re: GPNP99-LTC, G.LTC197

Issued by Metropolitan Life Insurance Company (MetLife)

Attached is the filing for the captioned forms. This letter provides an overview of the filing and notes on some of the content. After a careful review of earlier filings, we have endeavored to reflect in this filing additional content based on previous questions submitted by your Department. Hopefully, this will make your review easier and more effective.

Filing Overview

In addition to this overview, this filing consists of the Actuarial Memorandum and Attachments on specific aspects of the Pennsylvania Administrative Code as well as supporting data based on earlier reviews. These documents are outlined and summarized here for your convenience.

| Title | Description |
|--------------------------------|---|
| Actuarial Memorandum | Lifetime Loss Ratio ("LLR") |
| Exhibit I-A | • <i>Nationwide</i> experience |
| | • Without/with proposed rate increase of 6.82% |
| | • Weighted average statutory rate 4.47% |
| | LLR without rate increase – 99.4% |
| | LLR with rate increase – 97.4% |
| Exhibit II-A | Demonstration of rate action meeting Rate Stability |
| | (58/85) limitations |
| Exhibit I-B | Lifetime Loss Ratio ("LLR") |
| | • Pennsylvania experience |
| | • Without/with proposed rate increase of 6.82% |
| | Weighted average statutory rate 4.47% |
| | LLR without rate increase – 97.2% |
| | LLR with rate increase – 95.1% |
| Exhibit II-B | Demonstration of rate action meeting Rate Stability |
| | (58/85) limitations |
| Review of Prior Correspondence | Attachment 1 – Assumptions Summary |
| | Attachment 2 – A/E Ratios (Calendar Year) |
| | Attachment 3 – A/E Ratios (Policy Duration) |
| | Attachment 4 – A/E Ratios (Lapse, Mortality, |
| | Incidence, Claim Termination) |
| | Attachment 9-A – <i>Nationwide</i> Lifetime Loss Ratio with |
| | Earned Premium and Paid Claims |
| | Attachment 9-A – <i>Pennsylvania</i> Lifetime Loss Ratio |
| | with Earned Premium and Paid Claims |

| Attachment 16 – <i>Nationwide</i> Lifetime Loss Ratio at |
|--|
| Initial Rates Since Inception |
| Attachment 19 – <i>Nationwide</i> Reserve Experience |

Rationale for the Rate Increase Request

Exhibit I demonstrates that the combination of historical and projected experience using the most recent Best Estimate assumptions (with or without a margin for adverse deviation) is clearly far beyond the expected loss ratio using the original pricing assumptions. Attachments 2 and 3 support the development of the experience by analyzing the Actual-to-Expected Ratios by Calendar Year and Policy Duration.

Attachment 1 compares the development of the changes in assumptions from the time of original pricing to the latest Experience Study. Generally, worse than expected morbidity and lower decrements are the primary reasons for the rate action.

Assumption Setting and Review

All projection assumptions are based on the Experience Study performed each year. In general, the assumptions used in all projections are those that reproduce historical experience within a non-material degree of tolerance. Attachment 4 shows the Actual-to-Expected Ratios comparing the latest Best Estimate assumptions with the set of actual experience for Lapse, Mortality, Incidence, and Claim Termination.

Some actuarial judgment is used in areas where credibility or trending requires adjustment. In any case, the methodology, results, conclusions and use are prescribed by MetLife internal Standards and Actuarial Standards of Practice and are reviewed and approved by MetLife management, internal auditors, and external auditors.

Calculation of the Rate Request

MetLife's evaluation of the Justifiable Rate Increase ("JRI") uses the industry standard "If Knew" basis. This method calculates the premium needed at time zero to achieve the original loss ratio if all current experience had been known at inception. Of course, the Company cannot retroactively charge such premiums, so all historical losses stemming from past premium shortfalls are taken by the Company.

Additional Notes

MetLife requests the rate action based on deviations from anticipated experience outlined in the Actuarial Memorandum and the supporting attachments. Lifetime Loss Ratios exceed all minimum requirements in Pennsylvania as well as the application of rate stability standards even at the full requested rate action. In addition, though Pennsylvania-only experience is not necessarily credible, the LLR's still meet the standards above at the full rate action level.

Despite the rate action requested, the experience of the block does not fully return to pricing levels. In general, the rate action restricts consideration of recovering historical losses by focusing on lifetime experience. We will continue, of course, to analyze and adjust experience assumptions and reserve the right to update those in the future along with requesting any resulting changes in premium rates.

The actuarial justification for experience analysis and projections, including assumptions and methods, are reflective of the Code of Professional Conduct and applicable Actuarial Standards of Practice. I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries, and I meet the Academy's qualification standards for preparing health rate filings and to render the actuarial opinion contained herein.

Thank you for your consideration. I look forward to hearing from you.

Sincerely,

Mark Deleuton

Mark D. Newton, FSA, MAAA Actuarial Director, Metropolitan Life Insurance Company

New York, NY

Actuarial Memorandum

April 22, 2020

This actuarial memorandum pertains to long-term care insurance provided under group policies issued to cover eligible employees of an employer, and at the option of the employer, retirees and/or family members of eligible employees who meet eligibility requirements.

Policy Forms

The premium rate schedule increase for which we are seeking approval will apply to the following group long-term care insurance policy forms:

- GPNP99-LTC approved by your Department and certificates issued thereunder
- G.LTC197 approved by your Department and certificates issued thereunder

1. Purpose of Filing

This actuarial memorandum has been prepared for the purpose of demonstrating that the anticipated loss ratio standard of this product meets the minimum requirements of your state and may not be suitable for other purposes.

2. Description of Benefits

The group policy forms listed above provide either comprehensive or facilities only coverage. Benefits under the group long-term care policies are payable if an insured is unable to perform a certain number of activities of daily living or suffers cognitive impairment in accordance with the applicable terms and conditions of the group policy. There are optional benefits, including, but not limited to, nonforfeiture and inflation protection.

3. Renewability

These policy forms are guaranteed renewable for life.

4. Applicability

This filing is applicable to inforce group long-term care insurance policies issued for delivery (sitused) in your state, except those certificates issued to residents of other states whose requirements are asserted to apply to rate increases for certificates issued in such other states regardless of group policy situs.

These forms are not currently being marketed to new group policyholders.

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5. Actuarial Assumptions

- a. Expected Claim Costs are the product of attained age frequency rates and continuance curves, adjusted by utilization factors and underwriting selection factors based on actual experience through June 30, 2018.
- b. <u>Voluntary Termination Rates</u> vary by issue age and duration as developed from actual experience through June 30, 2018 and are shown in the following table:

| | | Issue Age | | | | | | | | | | | |
|----------|-----------|-----------|-----------|-------------------|-----------|---------|--|--|--|--|--|--|--|
| Duration | Under 40 | 40 to 44 | 45 to 49 | 45 to 49 50 to 54 | | over 59 | | | | | | | |
| 1 | 15.6% | 10.2% | 7.6% | 6.5% | 6.1% | 3.3% | | | | | | | |
| 2 | 12.3% | 7.6% | 5.8% | 4.7% | 3.9% | 2.9% | | | | | | | |
| 3 | 10.0% | 7.3% | 5.4% | 4.9% | 3.7% | 2.2% | | | | | | | |
| 4 | 7.9% | 5.7% | 4.1% | 3.5% | 2.9% | 2.0% | | | | | | | |
| 5 | 7.1% 5.1% | | 3.8% | 3.8% 3.3% | | 1.5% | | | | | | | |
| 6 | 5.0% 3.4% | | 3.1% | 2.3% | 2.1% | 1.4% | | | | | | | |
| 7 | 5.0% 3.4% | | 3.1% | 2.3% | 2.3% 2.1% | | | | | | | | |
| 8 | 4.0% | 2.6% | 2.4% | 2.1% | 1.3% | 1.3% | | | | | | | |
| 9 | 4.0% | 2.6% | 2.4% | 2.4% 2.1% | | 1.3% | | | | | | | |
| 10 | 4.0% 2.6% | | 2.4% 2.1% | | 1.3% | 1.3% | | | | | | | |
| 11 | 4.4% 2.6% | | 2.0% | 0.9% | 1.0% | 1.0% | | | | | | | |
| 12 | 4.4% 2.6% | | 2.0% | 0.9% | 1.0% | 1.0% | | | | | | | |
| *13+ | 1.8% | 1.3% | 1.0% | 0.8% | 0.7% | 0.7% | | | | | | | |

^{*}After duration 13, grade down to 0.7% by attained age 65 where applicable

In the year of rate increase implementation, it is assumed that an additional 0.9% of policies lapse. There is no adverse selection assumed due to the additional lapse rates.

- c. Mortality 97% of Annuity 2000 Basic Table with selection consistent with experience.
- d. <u>Expenses</u> Expenses have not been explicitly projected. It is assumed that the originally filed expense assumptions remain appropriate.

The above assumptions are based on actual inforce experience of MetLife and are deemed reasonable for these particular policy forms. The assumptions used in this filing were developed from the actual experience on these forms and supplemented, as needed, based on the experience of other forms.

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In establishing the assumptions described in this section, the policy design, underwriting, and claims adjudication practices for the above-referenced policy forms were taken into consideration.

6. Marketing Method

These policy forms were issued to provide coverage to eligible employees and retirees pursuant to an employer's sponsored benefits package. Family members of eligible employees and retirees were also eligible. The typical marketing methods utilize direct mail and call center support.

7. Underwriting Description

Several underwriting methods were used. These include Guaranteed Issue, Simplified Issue, and Full Underwriting. Guaranteed Issue applies only to those eligible employees who are actively at work. For those insureds that were not eligible for Guaranteed Issue, underwriting was performed by means of questions, including medical questions, and contacting health care providers for medical records as needed.

8. Premiums

Premium rates are level premiums from the date of issue, while payable, except when Periodic or Optional Inflation Additions are taken. The rates for each group policy reflect the specific group's risk profile. Premiums vary by the age of the insured at issue, the plan design and payment mode/method.

9. Issue Age Range

The minimum issue age for these forms was 18.

10. Area Factors

Area factors are not used for this product.

11. Reserves

Active life reserves have not been used in this rate increase analysis. Claim reserves as of December 31, 2018 have been discounted to the incurral date of each respective claim and included in historical incurred claims. Incurred but not reported reserve balances as of December 31, 2018 have been allocated to a calendar year of incurral and included in historical incurred claims.

12. Trend Assumptions

As this is not medical insurance, we have not included any explicit medical cost trends in the projections.

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13. Past and Future Policy Experience

Nationwide and Pennsylvania experience for all policy forms combined is shown in Exhibit I-A and I-B. Exhibit I-A normalizes the premium from all states to reflect the prior rate action approved by Pennsylvania rather than the prior rate action approved by other states. While the financial projections in Exhibit I include tax-qualified policy forms and other non-tax-qualified policy forms that were issued prior to the enactment of the Health Insurance Portability and Accountability Act (HIPAA), we are currently only requesting a rate increase on the tax-qualified policy forms listed above.

Historical experience is shown by claim incurral year. Claim payments and reserves were discounted to the mid-point of the year of incurral at the weighted average maximum valuation interest rate for contract reserves which is 4.47%. Incurred but not reported reserves were allocated based on a historical analysis of claim development pattern.

Annual loss ratios are calculated, with and without interest, as incurred claims divided by earned premiums.

A lifetime loss ratio as of December 31, 2018 is calculated as the sum of accumulated past experience and discounted future experience where accumulation and discounting occur at the weighted average maximum valuation interest rate for contract reserves, which is 4.47%.

14. Projected Earned Premiums and Incurred Claims

Earned premiums for projection years 2019 through 2099 are developed by multiplying each prior period's earned premium (starting with December 31, 2018 actual earned premium) by a persistency factor. For a year in which the rate increase is effective, the earned premium prior to the increase is multiplied by 1 plus the rate increase percent and an effectiveness factor.

Each projection year claim amount is calculated by multiplying incidence, continuance and utilization factors by the policy and rider benefits on a seriatim basis.

Present and accumulated values in the lifetime projections in Exhibit I-A and I-B are determined at the average maximum valuation interest rate for contract reserves applicable to LTC business issued in the years in which the applicable business of this filing were issued. The maximum valuation interest rate averages 4.47%.

The assumptions used in the projections in Exhibit I-A and I-B are developed from the company's LTC insurance experience.

Projections in Exhibit II provide a demonstration that the sum of the accumulated value of incurred claims without the inclusion of active life reserves, and the present value of future projected incurred claims, without the inclusion of active life reserves, will not be less than the sum of the following:

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- 1. Accumulated value of the initial earned premium times 58%;
- 2. 85% of the accumulated value of prior premium rate schedule increases;
- 3. Present value of future projected initial earned premium times 58%; and
- 4. 85% of the present value of future projected premium in excess of the projected initial earned premium.

15. History of Previous Inforce Rate Increases

| Round | Authorized % | Authorization Date | Implementation Date | | |
|-------|--------------|---------------------------|---------------------|--|--|
| 1 | 45% | 9/22/2011 | 5/1/2012 | | |

The experience and projections in Exhibit I-A have been restated to reflect a rate level similar to that approved in Pennsylvania on a nationwide basis.

16. Requested Rate Increase

The company is requesting an increase of 6.82% for the policy forms listed above. Corresponding rate tables reflecting the 6.82% increase are included with this filing. Please note that the actual rates implemented may vary slightly from those filed due to implementation rounding algorithms.

17. Analysis Performed

The initial premium schedule was based on pricing assumptions believed to be appropriate, given the information available at the time the initial rate schedule was developed. The original pricing assumptions for claim costs, voluntary termination rates, mortality, and interest were as follows:

- a. Incidence and continuance rates for nursing home care were based on a study published by the Society of Actuaries based on the 1985 NNHS with modifications. Home health care incidence and continuance rates were based on the nursing home care rates with modifications.
- b. Voluntary termination rates by duration were assumed to be 5.5% in year one, grading down to 4.5% in year ten and thereafter.
- c. Mortality was based on the 1983 Group Annuity Mortality Table, adjusted to remove loading. These rates vary by age and sex.

As part of the inforce management of the business, MetLife monitors the performance of the business by completing periodic analyses of lapse rates, mortality rates, claim incidence rates, claim continuance rates and claim utilization rates. The findings from these analyses were used to determine the current experience assumptions on a best estimate basis. A margin for moderately adverse experience equal to 10% of projected future incurred claims was added to the best estimate assumptions. A model of this business was developed for use in the cash flow testing that is part of

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the company's annual statutory reporting requirements. Using this model, a future projection of these policies under the moderately adverse experience assumptions was performed and the projected lifetime loss ratio for these policies was determined. For these policies, the past experience and future projections based on current experience assumptions, plus a margin of adverse deviation, combine to a resulting loss ratio that far exceeds both original pricing expectations and state minimum requirements.

Similar analyses were done for the prior premium rate increases. Since then, actual voluntary lapse rates have been lower than that assumed in the prior rate increases. Morbidity levels have been slightly worse than assumed in the prior rate increase.

The experience analysis, management's view of when a change to the original rate schedule may be considered and the seriatim inforce and claim data used in developing the projections in Exhibit I-A and I-B have been relied upon by the actuary in the development of this memorandum.

18. Loss Ratio Requirement Compliance Demonstration

Projected experience assuming the increase is implemented is shown in Exhibit I-A and I-B. As shown in these exhibits, the expected lifetime loss ratio, with and without the requested rate increase, exceed the minimum requirements under rate stability regulations.

19. Average Annual Premium

The average September 30, 2019 annualized premiums for all premium-paying certificates sitused in Pennsylvania, before and after the current requested increase of 6.82% are:

Before increase: \$1,514 After current requested 6.82% increase: \$1,617

20. Proposed Effective Date

The rate increase will become effective on the first day of the month following at least a 60 day advance written notification to the certificate holder.

21. Nationwide Distribution of Business as of September 30, 2019 (based on premium-paying certificates inforce count)

By Issue Age:

| Issue Age | Percent |
|-----------|---------|
| <45 | 28% |
| 45-49 | 17% |

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| 50-54 | 21% |
|-------|------|
| 55-59 | 18% |
| 60-64 | 10% |
| 65-69 | 4% |
| 70-74 | 1% |
| 75+ | 0% |
| Total | 100% |

By Benefit Period:

| Benefit Period (Days) | Percent |
|-----------------------|---------|
| 730 | 1% |
| 1,095 | 15% |
| 1,250 | 3% |
| 1,460 | 1% |
| 1,800 | 0% |
| 1,825 | 66% |
| 2,000 | 2% |
| 2,190 | 2% |
| 2,555 | 5% |
| 2,920 | 4% |
| 3,650 | 1% |
| 5,000 | 0% |
| Lifetime | 1% |
| Total | 100% |

By Inflation Option:

| Inflation | Percent |
|-----------|---------|
| Optional | 95% |
| Auto | 5% |
| Total | 100% |

By Home Care Percentage:

| Home Care % | Percent |
|--------------|---------|
| 0% (FC Only) | 11% |
| 50% | 35% |
| 60% | 33% |

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| 65% | 1% |
|-------|------|
| 70% | 0% |
| 75% | 13% |
| 80% | 2% |
| 100% | 5% |
| Total | 100% |

By Gender:

| Gender | Percent |
|--------|---------|
| Female | 55% |
| Male | 46% |
| Total | 100% |

22. Number of Certificateholders

As of September 30, 2019, the number of premium-paying certificates inforce sitused in Pennsylvania and their premiums that will be affected by this increase are:

| Effective Before Ra | te Stability Regulation | Effective On or After Rate Stability | | | | |
|---------------------|---------------------------|--------------------------------------|---------------------------|--|--|--|
| Effec | tive Date | Regulation Effective Date | | | | |
| Number of | 2019 | Number of | 2019 | | | |
| Certificateholders | Annualized Premium | Certificateholders | Annualized Premium | | | |
| 1,198 | \$1,610,560 | 4,262 | \$6,656,531 | | | |

23. Actuarial Certification

I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries, and I meet the Academy's qualification standards for preparing health rate filings and to render the actuarial opinion contained herein.

This memorandum has been prepared in conformity with all applicable Actuarial Standards of Practice, including ASOP No. 8.

I hereby certify that, to the best of my knowledge and judgment, this rate submission is in compliance with the applicable laws and regulations of Pennsylvania.

The projections contained in this actuarial memorandum are based on best estimate assumptions that reflect a margin for moderately adverse experience. I certify that (1) if the requested premium rate schedule increase is implemented and (2) unless underlying best estimate assumptions plus the moderately adverse conditions are realized, no further premium rate schedule increases are

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anticipated. Moderately adverse conditions are interpreted as those conditions where aggregate experience deviates unfavorably from the aggregate best estimate experience assumptions, such that the value of the deviation is equal to 10% of projected future incurred claims or more, or other conditions that result in a similar lifetime loss ratio.

I further certify that

- the analysis described in Section 17 of this memorandum was used in determining the need for a rate increase;
- the policy design, underwriting and claims adjudication practices have been taken into consideration in this rate increase request;
- the actuarial assumptions are appropriate and the gross premiums bear reasonable relationship to the benefits; and
- the relationship between renewal premium rate schedules and new business premium rate schedules is not applicable because we are no longer be marketing new business.

Mark D. Newton, FSA, MAAA

Mark Debuton

Actuarial Director, Metropolitan Life Insurance Company

Exhibit I-A Metropolitan Life Insurance Company Nationwide Experience Projections (Premium Normalized to Include Prior Authorized Increases)

| | 1 | Loss Ratio Demonstration | | | F | D | B! | - 111 | R | 0 | between De | t. F | | | | |
|----------------------|------------------|----------------------------|----------------------------|----------------------|--------------------|----------------------------|----------------------------|----------------------|-------------------------|----------------------|----------------------|---------------------|-----------------------|------------------------|-----------------------|------------------------|
| | | | Vithout Interest | LOSS R | atio Demonst | | With Interest | | Premium | ors Derived fro | | ersistency | | | Calendar Year | te Factors Mid-Year |
| | Calendar Year | Earned Premium | Incurred Claims | Loss Ratio | Life Years | Earned Premium | Incurred Claims | Loss Ratio | Rate Increase Factor | Benefit Downgrade | | Policy ock Lapse | Policy Persistency | Premium Persistency | Effective Int Rate | Disc / Accum Factor |
| | 1989 | 73,088 | | 0.0% | 649 | 265,877 | | 0.0% | T doto: | Downgrado | capoo a mortany j on | JON Eupoc | relationary | relationary | 4.47% | 3.6378 |
| | 1990 1991 | 3,257,050 8,385,510 | 98,323 142,014 | 3.0% | 9,365 27,399 | 11,340,863 27,947,297 | 342,354 473,305 | 3.0% 1.7% | | | | | | | 4.47% 4.47% | 3.4819 3.3328 |
| | 1992 | 13,462,425 | 1,315,222 | 9.8% | 34,519 | 42,945,965 | 4,195,638 | 9.8% | | | | | | | 4.47% | 3.1901 |
| | 1993 | 24,542,532 | 1,901,925 | 7.7% | 57,383 | 74,938,870 | 5,807,393 | 7.7% | | | | | | | 4.47% | 3.0534 |
| | 1994 1995 | 29,207,461 32.821.623 | 2,508,403 3,484,114 | 8.6% 10.6% | 59,284 63,893 | 85,363,121 91,817,454 | 7,331,179 9,746,699 | 8.6% 10.6% | | | | | | | 4.47% 4.47% | 2.9226 2.7975 |
| | 1996 | 36,225,167 | 6,221,356 | 17.2% | 76,547 | 96,998,343 | 16,658,619 | 17.2% | | | | | | | 4.47% | 2.6777 |
| | 1997 | 41,731,413 | 3,361,627 | 8.1% | 78,740 | 106,956,139 | 8,615,732 | 8.1% | | | | | | | 4.47% | 2.5630 |
| | 1998 1999 | 43,940,449 48,097,051 | 7,714,265 19,963,200 | 17.6% 41.5% | 82,595 95,693 | 107,794,308 112,937,587 | 18,924,565 46,875,964 | 17.6% 41.5% | | | | | | | 4.47% 4.47% | 2.4532 |
| | 2000 | 55,598,283 | 16,502,514 | 29.7% | 111,642 | 124,959,751 | 37,090,176 | 29.7% | | | | | | | 4.47% | 2.2475 |
| Historical | 2001 2002 | 66,614,492 76,962,588 | 24,068,185 25.845.554 | 36.1% 33.6% | 138,474 154.041 | 143,306,604 158,476,862 | 51,777,469 | 36.1% 33.6% | | | | | | | 4.47% 4.47% | 2.1513 2.0591 |
| Experience | 2002 | 84.734.429 | 25,845,554 | 33.6% | 161,514 | 167.007.058 | 53,219,655 56,383,127 | 33.6% | | | | | | | 4.47% | 1.9709 |
| | 2004 | 93,549,570 | 29,417,990 | 31.4% | 177,688 | 176,484,037 | 55,497,910 | 31.4% | | | | | | | 4.47% | 1.8865 |
| | 2005 2006 | 106,389,491 121,561,825 | 35,602,802 36,875,172 | 33.5% 30.3% | 193,671 207,903 | 192,110,489 210,105,912 | 64,288,978 63,734,578 | 33.5% 30.3% | | | | | | | 4.47% 4.47% | 1.8057 1.7284 |
| | 2007 | 132,858,561 | 46,491,291 | 35.0% | 211,594 | 219,795,765 | 76,913,289 | 35.0% | | | | | | | 4.47% | 1.6544 |
| | 2008 | 138,403,077 | 54,716,840 | 39.5% | 211,070 | 219,161,487 | 86,644,201 | 39.5% | | | | | | | 4.47% | 1.5835 |
| | 2009 2010 | 141,341,445 141,989,562 | 50,240,716 48,415,921 | 35.5% 34.1% | 199,029 193.053 | 214,228,247 205,992,943 | 76,148,794 70,239,938 | 35.5% 34.1% | | | | | | | 4.47% 4.47% | 1.5157 1.4508 |
| | 2011 | 142,889,041 | 54,545,282 | 38.2% | 187,553 | 198,419,139 | 75,742,883 | 38.2% | | | | | | | 4.47% | 1.3886 |
| | 2012 | 142,013,255 | 62,091,189 | 43.7% 39.1% | 178,477 | 188,756,638 | 82,528,381 | 43.7% 39.1% | | | | | | | 4.47% 4.47% | 1.3291 |
| | 2013 2014 | 162,863,192 189,092,342 | 63,646,086 70,214,415 | 39.1% 37.1% | 170,629 165,636 | 207,197,738 230,263,300 | 80,971,795 85,502,156 | 39.1% 37.1% | | | | | | | 4.47% 4.47% | 1.2722 1.2177 |
| | 2015 | 187,270,622 | 85,340,894 | 45.6% | 160,865 | 218,277,590 | 99,471,046 | 45.6% | | | | | | | 4.47% | 1.1656 |
| | 2016 2017 | 187,556,911 186,345,406 | 95,493,013 124,213,565 | 50.9% 66.7% | 156,155 151,817 | 209,247,985 198,992,000 | 106,536,839 132,643,494 | 50.9% 66.7% | | | | | | | 4.47% 4.47% | 1.1157 1.0679 |
| | 2017 | 180,833,741 | 140,540,754 | 77.7% | 147,355 | 184,835,382 | 143,650,758 | 77.7% | | | | | | | 4.47% | 1.0221 |
| Projected | 2019 | 179,854,405 | 134,979,417 | 75.0% | 145,563 | 175,960,601 | 132,057,145 | 75.0% | 1.4356 | N/A | 0.0122 | N/A | 0.988 | 0.995 | 4.47% | 0.9784 |
| Future Experience | 2020 2021 | 172,545,082 165,276,344 | 144,912,977 155,042,377 | 84.0% 93.8% | 143,936 141,622 | 161,579,276 148,143,460 | 135,703,282 138,970,368 | 84.0% 93.8% | 1.4356 1.4356 | N/A N/A | 0.0112 0.0161 | N/A N/A | 0.989 | 0.959 0.958 | 4.47% 4.47% | 0.9364 |
| Experience | 2022 | 158,038,299 | 165,545,413 | 104.8% | 140,234 | 135,588,498 | 142,029,204 | 104.8% | 1.4356 | N/A | 0.0098 | N/A | 0.990 | 0.956 | 4.47% | 0.8579 |
| | 2023 | 150,802,397 | 176,551,435 | 117.1% | 138,939 | 123,839,007 | 144,984,131 | 117.1% | 1.4356 | N/A | 0.0092 | N/A | 0.991 | 0.954 | 4.47% | 0.8212 |
| | 2024 | 143,533,323 136 230 454 | 188,099,230 200.133.440 | 131.0% 146.9% | 137,694 136,495 | 112,821,189 102,494,568 | 147,851,233 150,572,724 | 131.0% 146.9% | 1.4356 1.4356 | N/A N/A | 0.0090 | N/A N/A | 0.991 | 0.952 | 4.47% 4.47% | 0.7860 0.7524 |
| | 2026 | 128,953,454 | 212,548,270 | 164.8% | 135,320 | 92,864,204 | 153,063,957 | 164.8% | 1.4356 | N/A | 0.0086 | N/A | 0.991 | 0.947 | 4.47% | 0.7201 |
| | 2027 2028 | 121,657,781 114,394,123 | 225,146,784 237,971,315 | 185.1% 208.0% | 134,175 133,053 | 83,857,897 75,473,850 | 155,192,177 157,006,417 | 185.1% 208.0% | 1.4356 1.4356 | N/A N/A | 0.0085 0.0084 | N/A N/A | 0.992 0.992 | 0.943 0.940 | 4.47% 4.47% | 0.6893 0.6598 |
| | 2029 | 107,265,394 | 250,810,517 | 233.8% | 131,949 | 67,739,368 | 158,389,815 | 233.8% | 1.4356 | N/A | 0.0083 | N/A | 0.992 | 0.940 | 4.47% | 0.6315 |
| | 2030 | 100,216,491 | 263,449,743 | 262.9% | 130,844 | 60,577,230 | 159,245,805 | 262.9% | 1.4356 | N/A | 0.0084 | N/A | 0.992 | 0.934 | 4.47% | 0.6045 |
| | 2031 2032 | 93,279,467 86.502.095 | 275,730,380 287,376,392 | 295.6% 332.2% | 129,759 128,634 | 53,969,077 47,904,276 | 159,530,438 159,147,104 | 295.6% 332.2% | 1.4356 1.4356 | N/A N/A | 0.0083 0.0087 | N/A N/A | 0.992 0.991 | 0.931 0.927 | 4.47% 4.47% | 0.5786 0.5538 |
| | 2033 | 79,874,951 | 298,176,293 | 373.3% | 127,506 | 42,339,622 | 158,055,451 | 373.3% | 1.4356 | N/A | 0.0088 | N/A | 0.991 | 0.923 | 4.47% | 0.5301 |
| | 2034 | 73,419,231 | 307,844,461 | 419.3% | 126,339 | 37,250,741 | 156,191,152 | 419.3% | 1.4356 | N/A | 0.0092 | N/A | 0.991 | 0.919 | 4.47% | 0.5074 |
| | 2035 2036 | 67,195,282 61,196,639 | 315,998,872 322,439,051 | 470.3% 526.9% | 125,087 123,802 | 32,632,668 28.446.582 | 153,461,462 149.882.231 | 470.3% 526.9% | 1.4356 1.4356 | N/A N/A | 0.0099 0.0103 | N/A N/A | 0.990 | 0.915 0.911 | 4.47% 4.47% | 0.4856 0.4648 |
| | 2037 | 55,446,846 | 327,292,319 | 590.3% | 122,405 | 24,669,939 | 145,622,017 | 590.3% | 1.4356 | N/A | 0.0113 | N/A | 0.989 | 0.906 | 4.47% | 0.4449 |
| | 2038 2039 | 50,017,876 44,896,939 | 330,293,108 331.044.062 | 660.4% 737.3% | 120,940 119,390 | 21,301,255 18.301,446 | 140,662,864 134,944,274 | 660.4% 737.3% | 1.4356 1.4356 | N/A N/A | 0.0120 0.0128 | N/A N/A | 0.988 0.987 | 0.902 0.898 | 4.47% 4.47% | 0.4259 0.4076 |
| | 2040 | 40,100,900 | 329,556,826 | 821.8% | 117,631 | 15,646,294 | 128,584,223 | 821.8% | 1.4356 | N/A | 0.0147 | N/A | 0.985 | 0.893 | 4.47% | 0.3902 |
| | 2041 | 35,638,286 | 326,050,406 | 914.9% | 115,814 | 13,309,536 | 121,767,344 | 914.9% | 1.4356 | N/A | 0.0155 | N/A | 0.985 | 0.889 | 4.47% | 0.3735 |
| | 2042 2043 | 31,510,732 27,717,481 | 320,644,871 313,388,572 | 1017.6% 1130.7% | 113,879 111,825 | 11,264,017 9,483,688 | 114,619,656 107,227,622 | 1017.6% 1130.7% | 1.4356 1.4356 | N/A N/A | 0.0167 0.0180 | N/A N/A | 0.983 | 0.884 | 4.47% 4.47% | 0.3575 0.3422 |
| | 2044 | 24,254,172 | 304,437,745 | 1255.2% | 109,791 | 7,943,258 | 99,703,575 | 1255.2% | 1.4356 | N/A | 0.0182 | N/A | 0.982 | 0.875 | 4.47% | 0.3275 |
| | 2045 | 21,112,367 | 293,941,395 | 1392.3% | 107,616 | 6,618,169 | 92,142,862 | 1392.3% | 1.4356 1.4356 | N/A | 0.0198 | N/A | 0.980 | 0.870 | 4.47% | 0.3135 |
| | 2046 2047 | 18,280,565 15,743,943 | 282,098,762 269,053,633 | 1543.2% 1708.9% | 105,360 103,045 | 5,485,034 4,521,597 | 84,642,960 77,271,126 | 1543.2% 1708.9% | 1.4356 | N/A N/A | 0.0210 0.0220 | N/A N/A | 0.979 0.978 | 0.866 0.861 | 4.47% 4.47% | 0.3000 0.2872 |
| | 2048 | 13,485,726 | 255,126,266 | 1891.8% | 100,496 | 3,707,161 | 70,132,976 | 1891.8% | 1.4356 | N/A | 0.0247 | N/A | 0.975 | 0.857 | 4.47% | 0.2749 |
| | 2049 2050 | 11,488,614 9,734,896 | 240,446,363 225,260,499 | 2092.9% | 97,813 94,914 | 3,022,898 2,451,748 | 63,266,531 56,732,192 | 2092.9% | 1.4356 1.4356 | N/A N/A | 0.0267 | N/A N/A | 0.973 | 0.852 0.847 | 4.47% 4.47% | 0.2631 |
| | 2051 | 8,204,526 | 209,824,719 | 2557.4% | 91,821 | 1,977,820 | 50,581,289 | 2557.4% | 1.4356 | N/A | 0.0326 | N/A | 0.967 | 0.843 | 4.47% | 0.2411 |
| | 2052 | 6,877,171 | 194,286,488 | 2825.1% | 88,307 | 1,586,835 | 44,829,568 | 2825.1% | 1.4356 | N/A | 0.0383 | N/A | 0.962 | 0.838 | 4.47% | 0.2307 |
| | 2053 2054 | 5,732,558 4,752,635 | 178,809,370 163.626.550 | 3119.2% 3442.9% | 84,247 80.209 | 1,266,074 1,004,694 | 39,491,255 34,590,207 | 3119.2% 3442.9% | 1.4356 1.4356 | N/A N/A | 0.0460 0.0479 | N/A N/A | 0.954 0.952 | 0.834 | 4.47% 4.47% | 0.2209 0.2114 |
| | 2055 | 3,919,684 | 148,845,570 | 3797.4% | 76,200 | 793,120 | 30,117,853 | 3797.4% | 1.4356 | N/A | 0.0500 | N/A | 0.950 | 0.825 | 4.47% | 0.2023 |
| 1 | 2056 | 3,215,464 | 134,596,659 | 4185.9% | 72,062 | 622,760 | 26,068,203 | 4185.9% | 1.4356 | N/A N/A | 0.0543 | N/A N/A | 0.946 | 0.820 | 4.47% | 0.1937 |
| | 2057 2058 | 2,623,337 2,128,280 | 121,019,745 108,244,637 | 4613.2% 5086.0% | 66,630 61,561 | 486,317 377,644 | 22,434,777 19,207,048 | 4613.2% 5086.0% | 1.4356 1.4356 | N/A N/A | 0.0754 0.0761 | N/A N/A | 0.925 0.924 | 0.816 | 4.47% 4.47% | 0.1854 0.1774 |
| | 2059 | 1,717,112 | 96,256,777 | 5605.7% | 56,766 | 291,636 | 16,348,363 | 5605.7% | 1.4356 | N/A | 0.0779 | N/A | 0.922 | 0.807 | 4.47% | 0.1698 |
| | 2060 2061 | 1,377,916 | 85,101,342 74.837.013 | 6176.1% 6805.6% | 52,170 47,696 | 224,003 171,108 | 13,834,647 11,644,929 | 6176.1% 6805.6% | 1.4356 1.4356 | N/A N/A | 0.0810 0.0857 | N/A N/A | 0.919 0.914 | 0.802 0.798 | 4.47% 4.47% | 0.1626 0.1556 |
| | 2062 | 872,938 | 65,422,345 | 7494.5% | 43,254 | 130,015 | 9,743,954 | 7494.5% | 1.4356 | N/A | 0.0931 | N/A | 0.907 | 0.794 | 4.47% | 0.1489 |
| | 2063 | 689,126 | 56,834,583 | 8247.3% | 39,077 | 98,242 | 8,102,341 | 8247.3% | 1.4356 | N/A | 0.0966 | N/A | 0.903 | 0.789 | 4.47% | 0.1426 |
| 1 | 2064 2065 | 540,948 422,385 | 49,104,467 42,160,853 | 9077.5% 9981.6% | 35,032 31,108 | 73,815 55,168 | 6,700,505 5,506,614 | 9077.5% 9981.6% | 1.4356 1.4356 | N/A N/A | 0.1035 0.1120 | N/A N/A | 0.896 0.888 | 0.785 0.781 | 4.47% 4.47% | 0.1365 0.1306 |
| | 2066 | 328,094 | 35,993,412 | 10970.4% | 27,512 | 41,017 | 4,499,735 | 10970.4% | 1.4356 | N/A | 0.1156 | N/A | 0.884 | 0.777 | 4.47% | 0.1250 |
| | 2067 | 253,514 | 30,545,784 | 12049.0% | 24,103 | 30,336 | 3,655,140 | 12049.0% | 1.4356 | N/A N/A | 0.1239 | N/A N/A | 0.876 | 0.773 | 4.47% | 0.1197 0.1145 |
| | 2068 2069 | 194,858 149,008 | 25,769,578 21,591,673 | 13224.8% 14490.3% | 20,895 18,071 | 22,318 16,336 | 2,951,540 2,367,099 | 13224.8% 14490.3% | 1.4356 1.4356 | N/A N/A | 0.1331 0.1351 | N/A N/A | 0.867 0.865 | 0.769 0.765 | 4.47% 4.47% | 0.1145 0.1096 |
| | 2070+ | 392,003 | 77,978,338 | 19892.3% | 15,433 | 41,135 | 8,182,628 | 19892.3% | 1.4356 | N/A | 0.1460 | N/A | 0.854 | N/A | 4.47% | 0.1049 |
| | Past | 2 820 611 603 | 1 139 579 759 | 40.4% | 3 864 233 | 4 426 924 751 | 1 617 956 915 | 36.5% | | | | | | | | |
| | Future | 2,585,155,752 | 10,232,241,098 | 395.8% | 4,984,024 | 1,740,518,547 | 4,509,512,012 | 259.1% | | | | | | | | |
| | Lifetime | 5,405,767,355 | 11,371,820,857 | 210.4% | 8,848,257 | 6,167,443,298 | 6,127,468,927 | 99.4% | | | | | | | | |

Exhibit I-A Metropolitan Life Insurance Company Nationwide Experience Projections (Premium Normalized to Include Prior Authorized Increases) and With 6.82% Future Increase

| _ | | | | Less B | atia Damanat | ration. | | | Foots | ne Daringd fra | m Drainated Value | a for Illustrat | iva Durnagas (| Only | Interest De | to Footoro |
|----------------------|------------------|----------------------------|----------------------------|----------------------|--------------------|----------------------------|----------------------------|----------------------|-------------------------|----------------------|-----------------------------|-----------------------|-----------------------|------------------------|------------------------------|------------------------|
| | | | Vithout Interest | LOSS R | atio Demonst | | With Interest | | Premium | ors Derived fro | om Projected Value: | Persistency | | | Interest Ra Calendar Year | Mid-Year |
| | Calendar Year | Earned Premium | Incurred Claims | Loss Ratio | Life Years | Earned Premium | Incurred Claims | Loss Ratio | Rate Increase Factor | Benefit Downgrade | Policy Lapse & Mortality | Policy Shock Lapse | Policy Persistency | Premium Persistency | Effective Int Rate | Disc / Accum Factor |
| | 1989 | 73,088 | | 0.0% | 649 | 265,877 | | 0.0% | T doto: | Downgrado | Eupoc a moranty | OHOUR EUPOC | 1 Citiotoricy | rerosterioy | 4.47% | 3.6378 |
| | 1990 1991 | 3,257,050 8,385,510 | 98,323 142,014 | 3.0% | 9,365 27,399 | 11,340,863 27,947,297 | 342,354 473,305 | 3.0% 1.7% | | | | | | | 4.47% 4.47% | 3.4819 3.3328 |
| | 1992 | 13,462,425 | 1,315,222 | 9.8% | 34,519 | 42,945,965 | 4,195,638 | 9.8% | | | | | | | 4.47% | 3.1901 |
| | 1993 | 24,542,532 | 1,901,925 | 7.7% | 57,383 | 74,938,870 | 5,807,393 | 7.7% | | | | | | | 4.47% | 3.0534 |
| | 1994 1995 | 29,207,461 32.821.623 | 2,508,403 3,484,114 | 8.6% 10.6% | 59,284 63,893 | 85,363,121 91,817,454 | 7,331,179 9,746,699 | 8.6% 10.6% | | | | | | | 4.47% 4.47% | 2.9226 2.7975 |
| | 1996 | 36,225,167 | 6,221,356 | 17.2% | 76,547 | 96,998,343 | 16,658,619 | 17.2% | | | | | | | 4.47% | 2.6777 |
| | 1997 | 41,731,413 | 3,361,627 | 8.1% | 78,740 | 106,956,139 | 8,615,732 | 8.1% | | | | | | | 4.47% | 2.5630 |
| | 1998 1999 | 43,940,449 48,097,051 | 7,714,265 19,963,200 | 17.6% 41.5% | 82,595 95 693 | 107,794,308 112,937,587 | 18,924,565 46,875,964 | 17.6% 41.5% | | | | | | | 4.47% 4.47% | 2.4532 |
| | 2000 | 55,598,283 | 16,502,514 | 29.7% | 111,642 | 124,959,751 | 37,090,176 | 29.7% | | | | | | | 4.47% | 2.2475 |
| Historical | 2001 2002 | 66,614,492 76,962,588 | 24,068,185 25.845.554 | 36.1% 33.6% | 138,474 154.041 | 143,306,604 158,476,862 | 51,777,469 | 36.1% 33.6% | | | | | | | 4.47% 4.47% | 2.1513 2.0591 |
| Experience | 2002 | 84.734.429 | 25,845,554 | 33.6% | 161,514 | 167.007.058 | 53,219,655 56,383,127 | 33.6% | | | | | | | 4.47% | 1.9709 |
| | 2004 | 93,549,570 | 29,417,990 | 31.4% | 177,688 | 176,484,037 | 55,497,910 | 31.4% | | | | | | | 4.47% | 1.8865 |
| | 2005 2006 | 106,389,491 121,561,825 | 35,602,802 36,875,172 | 33.5% 30.3% | 193,671 207,903 | 192,110,489 210,105,912 | 64,288,978 63,734,578 | 33.5% 30.3% | | | | | | | 4.47% 4.47% | 1.8057 1.7284 |
| | 2007 | 132,858,561 | 46,491,291 | 35.0% | 211,594 | 219,795,765 | 76,913,289 | 35.0% | | | | | | | 4.47% | 1.6544 |
| | 2008 | 138,403,077 | 54,716,840 | 39.5% | 211,070 | 219,161,487 | 86,644,201 | 39.5% | | | | | | | 4.47% | 1.5835 |
| | 2009 2010 | 141,341,445 141,989,562 | 50,240,716 48,415,921 | 35.5% 34.1% | 199,029 193,053 | 214,228,247 205,992,943 | 76,148,794 70,239,938 | 35.5% 34.1% | | | | | | | 4.47% 4.47% | 1.5157 1.4508 |
| | 2011 | 142,889,041 | 54,545,282 | 38.2% | 187,553 | 198,419,139 | 75,742,883 | 38.2% | | | | | | | 4.47% | 1.3886 |
| | 2012 | 142,013,255 | 62,091,189 | 43.7% 39.1% | 178,477 | 188,756,638 | 82,528,381 | 43.7% 39.1% | | | | | | | 4.47% 4.47% | 1.3291 |
| | 2013 2014 | 162,863,192 189,092,342 | 63,646,086 70,214,415 | 39.1% 37.1% | 170,629 165,636 | 207,197,738 230,263,300 | 80,971,795 85,502,156 | 39.1% 37.1% | | | | | | | 4.47% | 1.2722 1.2177 |
| | 2015 | 187,270,622 | 85,340,894 | 45.6% | 160,865 | 218,277,590 | 99,471,046 | 45.6% | | | | | | | 4.47% | 1.1656 |
| | 2016 2017 | 187,556,911 186.345.406 | 95,493,013 124,213,565 | 50.9% 66.7% | 156,155 151,817 | 209,247,985 198,992,000 | 106,536,839 132,643,494 | 50.9% 66.7% | | | | | | | 4.47% 4.47% | 1.1157 1.0679 |
| | 2017 | 180,833,741 | 140,540,754 | 77.7% | 147,355 | 184,835,382 | 143,650,758 | 77.7% | | | | | | | 4.47% | 1.0221 |
| Projected | 2019 | 179,854,405 | 134,979,417 | 75.0% | 145,563 | 175,960,601 | 132,057,145 | 75.0% | 1.4356 | 1.00000 | 0.0122 | 1.0000 | 0.988 | 0.995 | 4.47% | 0.9784 |
| Future Experience | 2020 2021 | 175,938,204 175,488,901 | 144,478,238 154 112 123 | 82.1% 87.8% | 143,504 140,772 | 164,756,754 157,297,363 | 135,296,172 138 136 546 | 82.1% 87.8% | 1.4683 1.5335 | 1.00000 | 0.0141 | 0.9970 | 0.986 | 0.959 0.958 | 4.47% 4.47% | 0.9364 |
| Experience | 2022 | 167,297,162 | 164,055,504 | 98.1% | 138,972 | 143,532,113 | 140,750,942 | 98.1% | 1.5335 | 1.00000 | 0.0128 | 0.9910 | 0.987 | 0.956 | 4.47% | 0.8579 |
| | 2023 | 159,637,336 | 174,962,472 | 109.6% | 137,689 | 131,094,264 | 143,679,274 | 109.6% | 1.5335 | 1.00000 | 0.0092 | 0.9910 | 0.991 | 0.954 | 4.47% | 0.8212 |
| | 2024 2025 | 151,942,395 144,211,678 | 186,406,337 198.332,239 | 122.7% 137.5% | 136,455 135,266 | 119,430,954 108,499,336 | 146,520,572 149,217,570 | 122.7% 137.5% | 1.5335 1.5335 | 1.00000 | 0.0090 0.0087 | 0.9910 | 0.991 0.991 | 0.952 0.949 | 4.47% 4.47% | 0.7860 0.7524 |
| | 2026 | 136,508,346 | 210,635,336 | 154.3% | 134,103 | 98,304,765 | 151,686,382 | 154.3% | 1.5335 | 1.00000 | 0.0086 | 0.9910 | 0.991 | 0.947 | 4.47% | 0.7201 |
| | 2027 2028 | 128,785,248 121,096,040 | 223,120,463 235,829,573 | 173.3% 194.7% | 132,967 131,855 | 88,770,813 79,895,576 | 153,795,447 155,593,359 | 173.3% 194.7% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0085 0.0084 | 0.9910 0.9910 | 0.992 0.992 | 0.943 0.940 | 4.47% 4.47% | 0.6893 0.6598 |
| | 2029 | 113,549,666 | 248,553,222 | 218.9% | 130,762 | 71,707,960 | 156,964,307 | 218.9% | 1.5335 | 1.00000 | 0.0083 | 0.9910 | 0.992 | 0.938 | 4.47% | 0.6315 |
| | 2030 | 106,087,794 | 261,078,695 | 246.1% | 129,666 | 64,126,220 | 157,812,593 | 246.1% | 1.5335 | 1.00000 | 0.0084 | 0.9910 | 0.992 | 0.934 | 4.47% | 0.6045 |
| | 2031 2032 | 98,744,357 91,569,924 | 273,248,807 284,790,005 | 276.7% 311.0% | 128,591 127,476 | 57,130,921 50,710,805 | 158,094,664 157,714,780 | 276.7% 311.0% | 1.5335 1.5335 | 1.00000 | 0.0083 0.0087 | 0.9910 0.9910 | 0.992 0.991 | 0.931 0.927 | 4.47% 4.47% | 0.5786 0.5538 |
| | 2033 | 84,554,521 | 295,492,706 | 349.5% | 126,359 | 44,820,139 | 156,632,952 | 349.5% | 1.5335 | 1.00000 | 0.0088 | 0.9910 | 0.991 | 0.923 | 4.47% | 0.5301 |
| | 2034 2035 | 77,720,585 71,131,998 | 305,073,861 313,154,882 | 392.5% 440.2% | 125,202 123,961 | 39,433,120 34,544,492 | 154,785,431 152,080,309 | 392.5% 440.2% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0092 0.0099 | 0.9910 0.9910 | 0.991 0.990 | 0.919 0.915 | 4.47% 4.47% | 0.5074 0.4856 |
| | 2035 | 64,781,918 | 319,537,100 | 493.3% | 122,687 | 30,113,159 | 148,533,290 | 493.3% | 1.5335 | 1.00000 | 0.0103 | 0.9910 | 0.990 | 0.913 | 4.47% | 0.4648 |
| | 2037 | 58,695,266 | 324,346,688 | 552.6% | 121,303 | 26,115,257 | 144,311,419 | 552.6% | 1.5335 | 1.00000 | 0.0113 | 0.9910 | 0.989 | 0.906 | 4.47% | 0.4449 |
| | 2038 2039 | 52,948,233 47,527,280 | 327,320,470 328.064.666 | 618.2% 690.3% | 119,852 118,316 | 22,549,214 19,373,658 | 139,396,898 133,729,775 | 618.2% 690.3% | 1.5335 1.5335 | 1.00000 | 0.0120 0.0128 | 0.9910 0.9910 | 0.988 | 0.902 0.898 | 4.47% 4.47% | 0.4259 0.4076 |
| | 2040 | 42,450,259 | 326,590,815 | 769.3% | 116,573 | 16,562,951 | 127,426,965 | 769.3% | 1.5335 | 1.00000 | 0.0147 | 0.9910 | 0.985 | 0.893 | 4.47% | 0.3902 |
| | 2041 | 37,726,198 | 323,115,953 | 856.5% 952.6% | 114,771 | 14,089,291 | 120,671,438 | 856.5% | 1.5335 1.5335 | 1.00000 | 0.0155 | 0.9910 | 0.985 | 0.889 | 4.47% 4.47% | 0.3735 |
| | 2042 | 33,356,826 29,341,343 | 317,759,068 310,568,075 | 1058.5% | 112,854 110,819 | 11,923,933 10,039,302 | 113,588,079 106,262,573 | 952.6% 1058.5% | 1.5335 | 1.00000 | 0.0167 0.0180 | 0.9910 0.9910 | 0.983 | 0.884 | 4.47% | 0.3575 0.3422 |
| | 2044 | 25,675,132 | 301,697,805 | 1175.1% | 108,803 | 8,408,624 | 98,806,243 | 1175.1% | 1.5335 | 1.00000 | 0.0182 | 0.9910 | 0.982 | 0.875 | 4.47% | 0.3275 |
| | 2045 2046 | 22,349,260 19.351.554 | 291,295,922 279,559,873 | 1303.4% 1444.6% | 106,647 104,412 | 7,005,903 5,806,381 | 91,313,577 83.881.174 | 1303.4% 1444.6% | 1.5335 1.5335 | 1.00000 | 0.0198 0.0210 | 0.9910 | 0.980 0.979 | 0.870 0.866 | 4.47% 4.47% | 0.3135 0.3000 |
| | 2047 | 16,666,321 | 266,632,150 | 1599.8% | 102,117 | 4,786,501 | 76,575,685 | 1599.8% | 1.5335 | 1.00000 | 0.0220 | 0.9910 | 0.978 | 0.861 | 4.47% | 0.2872 |
| | 2048 | 14,275,804 | 252,830,130 | 1771.0% | 99,591 | 3,924,349 | 69,501,779 | 1771.0% | 1.5335 | 1.00000 | 0.0247 | 0.9910 | 0.975 | 0.857 | 4.47% | 0.2749 |
| | 2049 2050 | 12,161,688 10.305,226 | 238,282,346 223,233,155 | 1959.3% 2166.2% | 96,933 94,059 | 3,199,998 2,595,387 | 62,697,132 56,221,603 | 1959.3% 2166.2% | 1.5335 1.5335 | 1.00000 | 0.0267 0.0296 | 0.9910 0.9910 | 0.973 0.970 | 0.852 0.847 | 4.47% 4.47% | 0.2631 0.2519 |
| | 2051 | 8,685,198 | 207,936,296 | 2394.1% | 90,994 | 2,093,693 | 50,126,057 | 2394.1% | 1.5335 | 1.00000 | 0.0326 | 0.9910 | 0.967 | 0.843 | 4.47% | 0.2411 |
| | 2052 2053 | 7,280,078 6,068,406 | 192,537,910 177,200,085 | 2644.7% 2920.0% | 87,512 83,489 | 1,679,802 1,340,248 | 44,426,102 39,135,834 | 2644.7% 2920.0% | 1.5335 1.5335 | 1.00000 | 0.0383 0.0460 | 0.9910 0.9910 | 0.962 0.954 | 0.838 0.834 | 4.47% 4.47% | 0.2307 0.2209 |
| | 2053 | 5,031,073 | 162,153,911 | 3223.0% | 79,488 | 1,340,248 | 34,278,895 | 3223.0% | 1.5335 | 1.00000 | 0.0479 | 0.9910 | 0.954 | 0.834 | 4.47% | 0.2209 |
| | 2055 | 4,149,324 | 147,505,960 | 3554.9% | 75,514 | 839,586 | 29,846,793 | 3554.9% | 1.5335 | 1.00000 | 0.0500 | 0.9910 | 0.950 | 0.825 | 4.47% | 0.2023 |
| | 2056 2057 | 3,403,846 2,777,028 | 133,385,289 119,930,567 | 3918.7% 4318.7% | 71,413 66,030 | 659,245 514,809 | 25,833,589 22,232,864 | 3918.7% 4318.7% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0543 0.0754 | 0.9910 0.9910 | 0.946 0.925 | 0.820 0.816 | 4.47% 4.47% | 0.1937 0.1854 |
| | 2058 | 2,252,967 | 107,270,435 | 4761.3% | 61,007 | 399,769 | 19,034,185 | 4761.3% | 1.5335 | 1.00000 | 0.0761 | 0.9910 | 0.923 | 0.811 | 4.47% | 0.1774 |
| | 2059 | 1,817,711 | 95,390,466 | 5247.8% | 56,256 | 308,722 | 16,201,228 | 5247.8% | 1.5335 | 1.00000 | 0.0779 | 0.9910 | 0.922 | 0.807 | 4.47% | 0.1698 |
| | 2060 2061 | 1,458,643 | 84,335,430 74,163,480 | 5781.8% 6371.1% | 51,700 47,267 | 237,127 181.133 | 13,710,135 11,540,124 | 5781.8% 6371.1% | 1.5335 1.5335 | 1.00000 | 0.0810 0.0857 | 0.9910 | 0.919 0.914 | 0.802 0.798 | 4.47% 4.47% | 0.1626 0.1556 |
| | 2062 | 924,080 | 64,833,544 | 7016.0% | 42,865 | 137,632 | 9,656,258 | 7016.0% | 1.5335 | 1.00000 | 0.0931 | 0.9910 | 0.907 | 0.794 | 4.47% | 0.1489 |
| | 2063 2064 | 729,499 572,641 | 56,323,072 48,662,527 | 7720.8% 8497.9% | 38,725 34,717 | 103,997 78.139 | 8,029,420 6,640,200 | 7720.8% 8497.9% | 1.5335 1.5335 | 1.00000 | 0.0966 0.1035 | 0.9910 | 0.903 | 0.789 0.785 | 4.47% 4.47% | 0.1426 0.1365 |
| | 2064 | 447,131 | 41,781,406 | 9344.3% | 34,717 | 58,400 | 5,457,055 | 9344.3% | 1.5335 | 1.00000 | 0.1035 | 0.9910 | 0.888 | 0.785 | 4.47% | 0.1365 |
| | 2066 | 347,316 | 35,669,471 | 10270.0% | 27,265 | 43,420 | 4,459,238 | 10270.0% | 1.5335 | 1.00000 | 0.1156 | 0.9910 | 0.884 | 0.777 | 4.47% | 0.1250 |
| | 2067 2068 | 268,366 206,274 | 30,270,872 25,537,652 | 11279.7% 12380.5% | 23,886 20,707 | 32,113 23.626 | 3,622,243 2,924,976 | 11279.7% 12380.5% | 1.5335 1.5335 | 1.00000 | 0.1239 0.1331 | 0.9910 | 0.876 0.867 | 0.773 0.769 | 4.47% 4.47% | 0.1197 0.1145 |
| | 2069 | 157,738 | 21,397,348 | 13565.1% | 17,909 | 17,293 | 2,345,795 | 13565.1% | 1.5335 | 1.00000 | 0.1351 | 0.9910 | 0.865 | 0.765 | 4.47% | 0.1096 |
| | 2070+ | 414,969 | 77,276,533 | 18622.2% | 15,294 | 43,545 | 8,108,984 | 18622.2% | 1.5335 | 1.00000 | 0.1460 | 0.9910 | 0.854 | N/A | 4.47% | 0.1049 |
| | Past | 2,820,611,603 | 1,139,579,759 | 40.4% | 3,864,233 | 4,426,924,751 | 1,617,956,915 | 36.5% | | | | | | | | |
| | Future | 2,719,887,224 | 10,142,700,348 | 372.9% | 4,941,767 | 1,826,365,954 | 4,471,346,049 | 244.8% | | | | | | | | |
| Ļ | Lifetime | 5,540,498,827 | 11,282,280,107 | 203.6% | 8,806,000 | 6,253,290,705 | 6,089,302,964 | 97.4% | | | | | | | | |

Lifetime 5.540,498.827 11.282.280,107 203.6% 8.806,000 6.253.290.705 6.089.302.964 97.4% Nate:

- The premiums shown in this exhibit are normalized to reflect prior rate inreases authorized by Pennsylvania rather than that authorized by other states.
- The projections are based on the assumptions derived using experience data through 6/30/2018.

Exhibit II-A Demonstration that Lifetime Incurred Claims with Requested Increase are Not Less than Lifetime Earned Premium with Prescribed Factors

| Accumulated value of initial earned premium | 4,075,140,483 | х | 58% | = | 2,363,581,480 |
|---|------------------------------|---|-----|---|--------------------------------|
| 2a Accumulated value of earned premium 2b Accumulated value of prior premium rate schedule increases (2a-1) | 4,426,924,751 351,784,268 | х | 85% | = | 299,016,628 |
| 3 Present value of future projected initial earned premium | 1,212,375,049 | x | 58% | = | 703,177,529 |
| 4a Present value of future projected premium 4b Present value of future projected premium in excess of the projected initial earned premiums (4a-3) | 1,826,365,954 613,990,905 | x | 85% | = | 521,892,269 |
| 5 Lifetime Earned Premium Times Prescribed Factor: Sum of 1, 2b, 3, and 4b | | | | | 3,887,667,906 |
| 6a Accumulated value of incurred claims without the inclusion of active life reserves 6b Present value of future projected incurred claims without the inclusion of active life reserves | | | | | 1,617,956,915 4,471,346,049 |
| 7 Lifetime Incurred Claims with Rate Increase: Sum of 6a and 6b | | | | | 6,089,302,964 |
| 8 Test: 7 is not less than 5 | | | | | TRUE |
| | | | | | |

Exhibit I-B Metropolitan Life Insurance Company Pennsylvania Experience Projections (Premium Include Prior Authorized Increases)

| | | | | Lose D | atio Demonst | ration | | | Fact | ors Derived fr | om Projected Value | as for Illustra | tive Purnosee | Only | Interest Ra | te Factors |
|--------------------------|--------------|------------------------|--------------------------|----------------------|----------------|--------------------------|------------------------|----------------------|-------------------------|----------------------|--------------------|-----------------------|-----------------------|------------------------|-----------------------|------------------------|
| | Calendar | | ithout Interest | | Life | | With Interest | Loss | Premium | | Policy | Persistency | Factors | | Calendar Year | Mid-Year |
| | Year | Earned Premium | Incurred Claims | Loss Ratio | Years | Earned Premium | Incurred Claims | Ratio | Rate Increase Factor | Benefit Downgrade | Lapse & Mortality | Policy Shock Lapse | Policy Persistency | Premium Persistency | Effective Int Rate | Disc / Accum Factor |
| | 1989 1990 | | | N/A N/A | | - | | N/A N/A | | | | | | | 4.47% 4.47% | 3.6378 3.4819 |
| | 1991 1992 | - | - | N/A N/A | - | - | - | N/A N/A | | | | | | | 4.47% 4.47% | 3.3328 3.1901 |
| | 1993 | | | N/A | - : | - | | N/A | | | | | | | 4.47% | 3.0534 |
| | 1994 1995 | : | : | N/A N/A | : | | : | N/A N/A | | | | | | | 4.47% 4.47% | 2.9226 2.7975 |
| | 1996 | | | N/A | | | | N/A | | | | | | | 4.47% | 2.6777 |
| | 1997 1998 | - | | N/A N/A | | - | - | N/A N/A | | | | | | | 4.47% 4.47% | 2.5630 2.4532 |
| | 1999 | 71,094 | | 0.0% | 324 | 166,936 | | 0.0% | | | | | | | 4.47% | 2.3481 |
| | 2000 2001 | 467,489 833,510 | 1,025 408,469 | 0.2% 49.0% | 1,468 1,825 | 1,050,703 1,793,116 | 2,304 878,733 | 0.2% 49.0% | | | | | | | 4.47% 4.47% | 2.2475 2.1513 |
| Historical Experience | 2002 2003 | 1,010,600 1,727,834 | 33,979 102,414 | 3.4% 5.9% | 2,811 4,005 | 2,080,968 3,405,469 | 69,968 201,853 | 3.4% 5.9% | | | | | | | 4.47% 4.47% | 2.0591 1.9709 |
| Experience | 2004 | 2,659,254 | 510,600 | 19.2% | 5,075 | 5,016,761 | 963,262 | 19.2% | | | | | | | 4.47% | 1.8865 |
| | 2005 2006 | 5,407,385 8.054.419 | 1,025,526 1,721,859 | 19.0% 21.4% | 7,965 8.115 | 9,764,266 13.921.156 | 1,851,821 2,976,039 | 19.0% 21.4% | | | | | | | 4.47% 4.47% | 1.8057 1.7284 |
| | 2007 | 8,002,695 | 2,737,692 | 34.2% | 8,046 | 13,239,330 | 4,529,126 | 34.2% | | | | | | | 4.47% | 1.6544 |
| | 2008 2009 | 8,468,091 8,649,057 | 1,991,171 4,830,675 | 23.5% 55.9% | 8,660 8,358 | 13,409,236 13,109,193 | 3,153,022 7,321,752 | 23.5% 55.9% | | | | | | | 4.47% 4.47% | 1.5835 1.5157 |
| | 2010 2011 | 8,397,807 8,220,240 | 1,575,434 1,879,657 | 18.8% 22.9% | 8,236 7,927 | 12,183,213 11,414,822 | 2,285,579 2,610,137 | 18.8% 22.9% | | | | | | | 4.47% 4.47% | 1.4508 1.3886 |
| | 2012 | 7,831,661 | 2,996,055 | 38.3% | 7,502 | 10,409,437 | 3,982,201 | 38.3% | | | | | | | 4.47% | 1.3291 |
| | 2013 2014 | 8,670,849 9,869,254 | 2,599,794 3,042,819 | 30.0% 30.8% | 7,032 6,822 | 11,031,224 12,018,081 | 3,307,508 3,705,330 | 30.0% 30.8% | | | | | | | 4.47% 4.47% | 1.2722 1.2177 |
| | 2015 | 9,562,284 | 2,306,183 | 24.1% | 6,668 | 11,145,540 | 2,688,025 | 24.1% | | | | | | | 4.47% | 1.1656 |
| | 2016 2017 | 9,351,568 9,183,735 | 3,319,052 4,147,150 | 35.5% 45.2% | 6,482 6,366 | 10,433,083 9,807,002 | 3,702,902 4,428,602 | 35.5% 45.2% | | | | | | | 4.47% 4.47% | 1.1157 1.0679 |
| Projected | 2018 2019 | 8,834,882 8,699,916 | 3,140,941 5,131,721 | 35.6% 59.0% | 6,230 6,149 | 9,030,387 8.511.564 | 3,210,446 5.020.620 | 35.6% 59.0% | 1.4356 | N/A | 0.0131 | N/A | 0.987 | 0.985 | 4.47% 4.47% | 1.0221 0.9784 |
| Future | 2020 | 8,318,096 | 5,505,550 | 66.2% | 6,075 | 7,789,454 | 5,155,654 | 66.2% | 1.4356 | N/A N/A | 0.0119 | N/A | 0.988 | 0.956 | 4.47% | 0.9364 |
| Experience | 2021 2022 | 7,940,325 7,560,271 | 5,909,952 6,336,830 | 74.4% 83.8% | 5,973 5,911 | 7,117,215 6,486,312 | 5,297,315 5,436,665 | 74.4% 83.8% | 1.4356 1.4356 | N/A | 0.0169 0.0102 | N/A N/A | 0.983 0.990 | 0.952 | 4.47% 4.47% | 0.8963 0.8579 |
| | 2023 | 7,184,617 6,809,792 | 6,805,740 7,309,505 | 94.7% 107.3% | 5,855 5,800 | 5,900,012 5,352,686 | 5,588,877 5,745,474 | 94.7% 107.3% | 1.4356 1.4356 | N/A N/A | 0.0096 | N/A N/A | 0.990 | 0.950 | 4.47% 4.47% | 0.8212 |
| | 2025 | 6,434,126 | 7,837,834 | 121.8% | 5,747 | 4,840,789 | 5,896,886 | 121.8% | 1.4356 | N/A | 0.0091 | N/A | 0.991 | 0.945 | 4.47% | 0.7524 |
| | 2026 2027 | 6,064,942 5,703,221 | 8,404,952 9,008,492 | 138.6% 158.0% | 5,696 5,646 | 4,367,591 3,931,192 | 6,052,720 6,209,494 | 138.6% 158.0% | 1.4356 1.4356 | N/A N/A | 0.0089 0.0088 | N/A N/A | 0.991 | 0.943 0.940 | 4.47% 4.47% | 0.7201 0.6893 |
| | 2028 | 5,351,349 | 9,648,933 | 180.3% | 5,597 | 3,530,662 | 6,366,080 | 180.3% | 1.4356 | N/A | 0.0087 | N/A | 0.991 | 0.938 | 4.47% | 0.6598 0.6315 |
| | 2029 2030 | 5,009,499 4,675,896 | 10,315,846 10,993,163 | 205.9% 235.1% | 5,549 5,499 | 3,163,558 2,826,409 | 6,514,579 6,644,968 | 205.9% 235.1% | 1.4356 1.4356 | N/A N/A | 0.0085 0.0090 | N/A N/A | 0.992 0.991 | 0.936 0.933 | 4.47% 4.47% | 0.6315 |
| | 2031 2032 | 4,350,735 4.034.431 | 11,674,061 12,338,726 | 268.3% 305.8% | 5,452 5.401 | 2,517,222 2,234,240 | 6,754,309 6.833.103 | 268.3% 305.8% | 1.4356 1.4356 | N/A N/A | 0.0086 0.0094 | N/A N/A | 0.991 | 0.930 0.927 | 4.47% 4.47% | 0.5786 0.5538 |
| | 2033 | 3,727,094 | 12,987,309 | 348.5% | 5,356 | 1,975,635 | 6,884,233 | 348.5% | 1.4356 | N/A | 0.0083 | N/A | 0.992 | 0.924 | 4.47% | 0.5301 |
| | 2034 2035 | 3,429,604 3,142,201 | 13,601,947 14,162,346 | 396.6% 450.7% | 5,300 5,247 | 1,740,079 1,525,976 | 6,901,224 6,877,791 | 396.6% 450.7% | 1.4356 1.4356 | N/A N/A | 0.0104 0.0100 | N/A N/A | 0.990 0.990 | 0.920 0.916 | 4.47% 4.47% | 0.5074 0.4856 |
| | 2036 2037 | 2,865,109 2,599,766 | 14,653,175 15,064,809 | 511.4% 579.5% | 5,195 5,142 | 1,331,814 | 6,811,366 | 511.4% 579.5% | 1.4356 1.4356 | N/A N/A | 0.0099 0.0103 | N/A N/A | 0.990 | 0.912 | 4.47% | 0.4648 0.4449 |
| | 2038 | 2,347,307 | 15,383,042 | 655.3% | 5,086 | 1,156,713 999,654 | 6,702,778 6,551,220 | 655.3% | 1.4356 | N/A | 0.0109 | N/A | 0.989 | 0.903 | 4.47% 4.47% | 0.4259 |
| | 2039 2040 | 2,108,382 1,883,918 | 15,595,462 15,681,511 | 739.7% 832.4% | 5,028 4,967 | 859,445 735,054 | 6,357,215 6,118,504 | 739.7% 832.4% | 1.4356 1.4356 | N/A N/A | 0.0113 0.0121 | N/A N/A | 0.989 0.988 | 0.898 0.894 | 4.47% 4.47% | 0.4076 0.3902 |
| | 2041 | 1,674,421 | 15,654,992 | 934.9% | 4,905 | 625,332 | 5,846,540 | 934.9% | 1.4356 | N/A | 0.0125 | N/A | 0.987 | 0.889 | 4.47% | 0.3735 |
| | 2042 2043 | 1,480,171 1,301,194 | 15,521,331 15,290,357 | 1048.6% 1175.1% | 4,841 4,769 | 529,111 445,211 | 5,548,349 5,231,680 | 1048.6% 1175.1% | 1.4356 1.4356 | N/A N/A | 0.0130 0.0149 | N/A N/A | 0.987 0.985 | 0.884 | 4.47% 4.47% | 0.3575 0.3422 |
| | 2044 2045 | 1,137,420 988,775 | 14,955,059 14,521,770 | 1314.8% 1468.7% | 4,702 4,628 | 372,506 309.955 | 4,897,792 4,552,191 | 1314.8% 1468.7% | 1.4356 1.4356 | N/A N/A | 0.0140 0.0159 | N/A N/A | 0.986 0.984 | 0.874 0.869 | 4.47% 4.47% | 0.3275 0.3135 |
| | 2046 | 854,733 | 13,990,430 | 1636.8% | 4,559 | 256,460 | 4,197,790 | 1636.8% | 1.4356 | N/A | 0.0149 | N/A | 0.985 | 0.864 | 4.47% | 0.3000 |
| | 2047 2048 | 734,726 628.120 | 13,353,717 12,687,704 | 1817.5% 2019.9% | 4,487 4,401 | 211,010 172,667 | 3,835,134 3,487,788 | 1817.5% 2019.9% | 1.4356 1.4356 | N/A N/A | 0.0158 0.0191 | N/A N/A | 0.984 0.981 | 0.860 | 4.47% 4.47% | 0.2872 0.2749 |
| | 2049 | 533,968 | 11,963,054 | 2240.4% | 4,296 | 140,498 | 3,147,733 | 2240.4% | 1.4356 | N/A | 0.0238 | N/A | 0.976 | | 4.47% | 0.2631 |
| | 2050 2051 | 451,426 379,516 | 11,210,924 10,435,872 | 2483.4% 2749.8% | 4,183 4,068 | 113,692 91,488 | 2,823,488 2,515,718 | 2483.4% 2749.8% | 1.4356 1.4356 | N/A N/A | 0.0265 0.0273 | N/A N/A | 0.973 0.973 | | 4.47% 4.47% | 0.2519 0.2411 |
| | 2052 2053 | 317,283 263,772 | 9,659,574 8,889,437 | 3044.5% 3370.1% | 3,939 3,798 | 73,210 58,256 | 2,228,845 1,963,292 | 3044.5% 3370.1% | 1.4356 1.4356 | N/A N/A | 0.0318 0.0359 | N/A N/A | 0.968 0.964 | 0.836 0.831 | 4.47% 4.47% | 0.2307 0.2209 |
| | 2054 | 218,030 | 8,123,088 | 3725.7% | 3,649 | 46,091 | 1,717,199 | 3725.7% | 1.4356 | N/A | 0.0393 | N/A | 0.961 | 0.827 | 4.47% | 0.2114 |
| | 2055 2056 | 179,235 146,523 | 7,372,068 6.644.566 | 4113.1% 4534.8% | 3,502 3.323 | 36,267 28,378 | 1,491,686 1,286,896 | 4113.1% 4534.8% | 1.4356 1.4356 | N/A N/A | 0.0402 0.0511 | N/A N/A | 0.960 0.949 | 0.822 0.817 | 4.47% 4.47% | 0.2023 0.1937 |
| | 2057 | 119,099 | 5,949,066 | 4995.1% | 3,099 | 22,079 | 1,102,845 | 4995.1% | 1.4356 | N/A | 0.0672 | N/A | 0.933 | 0.813 | 4.47% | 0.1854 |
| | 2058 2059 | 96,221 77,244 | 5,296,428 4,678,291 | 5504.4% 6056.5% | 2,844 2,611 | 17,074 13,119 | 939,804 794,566 | 5504.4% 6056.5% | 1.4356 1.4356 | N/A N/A | 0.0825 0.0818 | N/A N/A | 0.918 0.918 | | 4.47% 4.47% | 0.1774 0.1698 |
| | 2060 2061 | 61,651 48,879 | 4,104,144 3,578,783 | 6657.1% 7321.8% | 2,398 2.183 | 10,022 7,606 | 667,197 556.872 | 6657.1% 7321.8% | 1.4356 | N/A N/A | 0.0817 | N/A N/A | 0.918 | 0.798 | 4.47% 4.47% | 0.1626 0.1556 |
| | 2062 | 38,555 | 3,095,976 | 8030.1% | 1,976 | 5,742 | 461,112 | 8030.1% | 1.4356 | N/A | 0.0949 | N/A | 0.905 | 0.789 | 4.47% | 0.1489 |
| | 2063 2064 | 30,217 23,528 | 2,658,039 2,269,050 | 8796.6% 9643.8% | 1,764 1,564 | 4,308 3,211 | 378,930 309,621 | 8796.6% 9643.8% | 1.4356 1.4356 | N/A N/A | 0.1073 0.1132 | N/A N/A | 0.893 0.887 | 0.784 0.779 | 4.47% 4.47% | 0.1426 0.1365 |
| | 2065 | 18,198 | 1,929,535 | 10603.2% | 1,362 | 2,377 | 252,016 | 10603.2% | 1.4356 | N/A | 0.1296 | N/A | 0.870 | 0.773 | 4.47% | 0.1306 |
| | 2066 2067 | 13,988 10,677 | 1,633,973 1,369,527 | 11681.0% 12826.5% | 1,193 1,053 | 1,749 1,278 | 204,272 163,879 | 11681.0% 12826.5% | 1.4356 1.4356 | N/A N/A | 0.1235 0.1180 | N/A N/A | 0.876 0.882 | 0.769 0.763 | 4.47% 4.47% | 0.1250 0.1197 |
| | 2068 2069 | 8,093 6.086 | 1,145,286 944,794 | 14151.2% 15524.2% | 901 781 | 927 667 | 131,176 103.578 | 14151.2% 15524.2% | 1.4356 1.4356 | N/A N/A | 0.1438 0.1334 | N/A N/A | 0.856 0.867 | | 4.47% 4.47% | 0.1145 0.1096 |
| | 2069 | 6,086 14,712 | 3,262,004 | 15524.2% 22172.8% | 781 678 | 1,544 | 103,578 342,297 | 15524.2% 22172.8% | 1.4356 1.4356 | N/A N/A | 0.1334 0.1324 | N/A N/A | 0.867 | 0.752 N/A | 4.47% 4.47% | 0.1096 0.1049 |
| | Past | 125,273,708 | 38,370,495 | 30.6% | 119,917 | 174,429,924 | 51,868,609 | 29.7% | | | | | | | | |
| | Future | 122,097,058 | 466,539,741 | 382.1% 204.1% | 214,125 | 82,495,112 | 197,901,364 | 239.9% | | | | | | | | |
| Note: | Lifetime | 247,370,766 | 504,910,235 | ∠04.1% | 334,042 | 256,925,036 | 249,769,973 | 97.2% | | | | | | | | |

Note:
- The premiums shown in this exhibit reflect prior rate inreases authorized by Pennsylvania.
- The projections are based on the assumptions derived using experience data through 6/30/2018.

Exhibit I-B Metropolitan Life Insurance Company Pennsylvania Experience Projections (Premium include Prior Authorized Increases) and With 6.83% Future Increase

| | | | | Loss Ra | itio Demonst | ration | | | Facto | ors Derived fr | om Projected Value | s for Illustrat | ive Purposes O | nly | Interest Ra | ite Factors |
|--------------------------|--------------|------------------------|-----------------------------|----------------------|----------------|--------------------------|---------------------------|----------------------|--------------------------|--------------------|--------------------|-----------------------|-------------------|----------------|----------------------------|--------------------------|
| | Calendar | Earned W | ithout Interest Incurred | Loss | Life | Earned | With Interest Incurred | Loss | Premium Rate Increase | Benefit | Policy | Persistency Policy | Factors Policy | Premium | Calendar Year Effective | Mid-Year Disc / Accum |
| | Year | Premium | Claims | Ratio | Years | Premium | Claims | Ratio | Factor | Downgrade | Lapse & Mortality | Shock Lapse | | Persistency | Int Rate | Factor |
| | 1989 1990 | | | N/A N/A | | : | | N/A N/A | | | | | | | 4.47% 4.47% | 3.6378 3.4819 |
| | 1991 | | | N/A | - | - | | N/A | | | | | | | 4.47% | 3.3328 |
| | 1992 1993 | | - | N/A N/A | | - | - | N/A N/A | | | | | | | 4.47% 4.47% | 3.1901 3.0534 |
| | 1993 | | | N/A | | | | N/A | | | | | | | 4.47% | 2.9226 |
| | 1995 | | | N/A N/A | - | - | | N/A | | | | | | | 4.47% | 2.7975 |
| | 1996 1997 | | | N/A N/A | | | | N/A N/A | | | | | | | 4.47% 4.47% | 2.6777 2.5630 |
| | 1998 | | | N/A | - | - | - | N/A | | | | | | | 4.47% | 2.4532 |
| | 1999 2000 | 71,094 467,489 | 1.025 | 0.0% | 324 1,468 | 166,936 1,050,703 | 2,304 | 0.0% | | | | | | | 4.47% 4.47% | 2.3481 2.2475 |
| | 2001 | 833,510 | 408,469 | 49.0% | 1,825 | 1,793,116 | 878,733 | 49.0% | | | | | | | 4.47% | 2.1513 |
| Historical Experience | 2002 | 1,010,600 1,727,834 | 33,979 102.414 | 3.4% 5.9% | 2,811 4,005 | 2,080,968 3,405,469 | 69,968 201.853 | 3.4% 5.9% | | | | | | | 4.47% 4.47% | 2.0591 1.9709 |
| Experience | 2003 | 2,659,254 | 510,600 | 19.2% | 5,075 | 5,016,761 | 963,262 | 19.2% | | | | | | | 4.47% | 1.8865 |
| | 2005 | 5,407,385 | 1,025,526 | 19.0% | 7,965 | 9,764,266 | 1,851,821 | 19.0% | | | | | | | 4.47% | 1.8057 |
| | 2006 2007 | 8,054,419 8,002,695 | 1,721,859 2,737,692 | 21.4% 34.2% | 8,115 8.046 | 13,921,156 13,239,330 | 2,976,039 4,529,126 | 21.4% 34.2% | | | | | | | 4.47% 4.47% | 1.7284 1.6544 |
| | 2008 | 8,468,091 | 1,991,171 | 23.5% | 8,660 | 13,409,236 | 3,153,022 | 23.5% | | | | | | | 4.47% | 1.5835 |
| | 2009 2010 | 8,649,057 8,397,807 | 4,830,675 1,575,434 | 55.9% 18.8% | 8,358 8,236 | 13,109,193 12,183,213 | 7,321,752 2,285,579 | 55.9% 18.8% | | | | | | | 4.47% 4.47% | 1.5157 1.4508 |
| | 2011 | 8,220,240 | 1,879,657 | 22.9% | 7,927 | 11,414,822 | 2,610,137 | 22.9% | | | | | | | 4.47% | 1.3886 |
| | 2012 2013 | 7,831,661 8,670,849 | 2,996,055 2,599,794 | 38.3% 30.0% | 7,502 | 10,409,437 11,031,224 | 3,982,201 | 38.3% 30.0% | | | | | | | 4.47% 4.47% | 1.3291 1.2722 |
| | 2013 | 8,670,849 9,869,254 | 2,599,794 3,042,819 | 30.0% | 7,032 6,822 | 11,031,224 12,018,081 | 3,307,508 3,705,330 | 30.0% | | | 1 | | | | 4.47% | 1.2722 |
| | 2015 | 9,562,284 | 2,306,183 | 24.1% | 6,668 | 11,145,540 | 2,688,025 | 24.1% | | | | | | | 4.47% | 1.1656 |
| | 2016 2017 | 9,351,568 9,183,735 | 3,319,052 4,147,150 | 35.5% 45.2% | 6,482 6,366 | 10,433,083 9,807,002 | 3,702,902 4,428,602 | 35.5% 45.2% | | | | | | | 4.47% 4.47% | 1.1157 1.0679 |
| | 2018 | 8,834,882 | 3,140,941 | 35.6% | 6,230 | 9,030,387 | 3,210,446 | 35.6% | | | 1 | | | | 4.47% | 1.0221 |
| Projected Future | 2019 2020 | 8,699,916 8,481,672 | 5,131,721 5,489,033 | 59.0% 64.7% | 6,149 6,057 | 8,511,564 7,942,634 | 5,020,620 5,140,187 | 59.0% 64.7% | 1.4356 1.4683 | 1.00000 1.00000 | 0.0131 0.0149 | 1.0000 0.9970 | 0.987 0.985 | 0.985 0.956 | 4.47% 4.47% | 0.9784 0.9364 |
| Experience | 2021 | 8,430,964 | 5,874,493 | 69.7% | 5,937 | 7,556,993 | 5,265,531 | 69.7% | 1.5335 | 1.00000 | 0.0198 | 0.9940 | 0.980 | 0.955 | 4.47% | 0.8963 |
| | 2022 | 8,003,198 7.605.537 | 6,279,798 6,744,488 | 78.5% 88.7% | 5,858 5.802 | 6,866,321 6,245,671 | 5,387,735 5.538.577 | 78.5% 88.7% | 1.5335 1.5335 | 1.00000 | 0.0132 0.0096 | 0.9910 0.9910 | 0.987 | 0.952 0.950 | 4.47% 4.47% | 0.8579 0.8212 |
| | 2023 | 7,208,752 | 7,243,719 | 100.5% | 5,747 | 5,666,280 | 5,693,765 | 100.5% | 1.5335 | 1.00000 | 0.0094 | 0.9910 | 0.991 | 0.948 | 4.47% | 0.7860 |
| | 2025 2026 | 6,811,077 6,420,264 | 7,767,294 8 329 308 | 114.0% 129.7% | 5,695 5,644 | 5,124,393 4,623,472 | 5,843,814 5,998,246 | 114.0% 129.7% | 1.5335 | 1.00000 | 0.0091 | 0.9910 | 0.991 | 0.945 | 4.47% 4.47% | 0.7524 0.7201 |
| | 2026 | 6,037,351 | 8,329,308 8,927,416 | 147.9% | 5,595 | 4,623,472 | 6,153,608 | 147.9% | 1.5335 | 1.00000 | 0.0089 | 0.9910 | 0.991 | 0.943 | 4.47% | 0.7201 |
| | 2028 | 5,664,865 | 9,562,093 | 168.8% | 5,546 | 3,737,510 | 6,308,785 | 168.8% | 1.5335 | 1.00000 | 0.0087 | 0.9910 | | 0.938 | 4.47% | 0.6598 |
| | 2029 2030 | 5,302,986 4,949,839 | 10,223,003 10,894,224 | 192.8% 220.1% | 5,499 5,450 | 3,348,899 2,991,998 | 6,455,948 6,585,163 | 192.8% 220.1% | 1.5335 1.5335 | 1.00000 | 0.0085 0.0090 | 0.9910 0.9910 | 0.992 0.991 | 0.936 0.933 | 4.47% 4.47% | 0.6315 0.6045 |
| | 2031 | 4,605,628 | 11,568,994 | 251.2% | 5,403 | 2,664,697 | 6,693,520 | 251.2% | 1.5335 | 1.00000 | 0.0086 | 0.9910 | 0.991 | 0.930 | 4.47% | 0.5786 |
| | 2032 2033 | 4,270,793 3.945.451 | 12,227,678 12.870.423 | 286.3% 326.2% | 5,352 5.308 | 2,365,136 2.091,380 | 6,771,605 6.822,274 | 286.3% 326.2% | 1.5335 1.5335 | 1.00000 | 0.0094 0.0083 | 0.9910 0.9910 | 0.991 0.992 | 0.927 0.924 | 4.47% 4.47% | 0.5538 0.5301 |
| | 2034 | 3,630,531 | 13,479,529 | 371.3% | 5,253 | 1,842,024 | 6,839,113 | 371.3% | 1.5335 | 1.00000 | 0.0104 | 0.9910 | 0.990 | 0.920 | 4.47% | 0.5074 |
| | 2035 2036 | 3,326,290 3,032,965 | 14,034,885 14.521.296 | 421.9% 478.8% | 5,200 5,149 | 1,615,377 | 6,815,891 6,750,064 | 421.9% 478.8% | 1.5335 1.5335 | 1.00000 | 0.0100 | 0.9910 | 0.990 | 0.916 | 4.47% 4.47% | 0.4856 0.4648 |
| | 2036 | 2,752,076 | 14,929,226 | 542.5% | 5,096 | 1,224,480 | 6,642,453 | 542.5% | 1.5335 | 1.00000 | 0.0103 | 0.9910 | 0.990 | 0.907 | 4.47% | 0.4449 |
| | 2038 2039 | 2,484,827 2,231,904 | 15,244,595 | 613.5% 692.5% | 5,040 4.983 | 1,058,220 909,796 | 6,492,259 | 613.5% 692.5% | 1.5335 1.5335 | 1.00000 | 0.0109 0.0113 | 0.9910 0.9910 | 0.989 | 0.903 0.898 | 4.47% 4.47% | 0.4259 0.4076 |
| | 2039 | 1,994,290 | 15,455,103 15,540,377 | 779.2% | 4,983 | 778.118 | 6,300,000 6,063,438 | 779.2% | 1.5335 | 1.00000 | 0.0113 | 0.9910 | 0.989 | 0.898 | 4.47% | 0.4076 |
| | 2041 | 1,772,519 | 15,514,097 | 875.3% | 4,861 | 661,968 | 5,793,921 | 875.3% | 1.5335 | 1.00000 | 0.0125 | 0.9910 | 0.987 | 0.889 | 4.47% | 0.3735 |
| | 2042 2043 | 1,566,889 1,377,426 | 15,381,639 15.152.744 | 981.7% 1100.1% | 4,798 4,726 | 560,110 471,294 | 5,498,414 5,184,594 | 981.7% 1100.1% | 1.5335 1.5335 | 1.00000 | 0.0130 0.0149 | 0.9910 0.9910 | 0.987 0.985 | 0.884 0.879 | 4.47% 4.47% | 0.3575 0.3422 |
| | 2044 | 1,204,057 | 14,820,463 | 1230.9% | 4,660 | 394,330 | 4,853,712 | 1230.9% | 1.5335 | 1.00000 | 0.0140 | 0.9910 | 0.986 | 0.874 | 4.47% | 0.3275 |
| | 2045 | 1,046,704 904 808 | 14,391,074 13,864,516 | 1374.9% 1532.3% | 4,586 4.517 | 328,114 271 485 | 4,511,222 4,160,010 | 1374.9% 1532.3% | 1.5335 1.5335 | 1.00000 | 0.0159 0.0149 | 0.9910 | 0.984 | 0.869 | 4.47% 4.47% | 0.3135 |
| | 2047 | 777,771 | 13,233,533 | 1701.5% | 4,446 | 223,373 | 3,800,618 | 1701.5% | 1.5335 | 1.00000 | 0.0158 | 0.9910 | 0.984 | 0.860 | 4.47% | 0.2872 |
| | 2048 2049 | 664,919 565,251 | 12,573,514 11.855.386 | 1891.0% 2097.4% | 4,361 4.258 | 182,783 148,730 | 3,456,398 3,119,403 | 1891.0% 2097.4% | 1.5335 1.5335 | 1.00000 | 0.0191 0.0238 | 0.9910 0.9910 | 0.981 0.976 | 0.855 0.850 | 4.47% 4.47% | 0.2749 0.2631 |
| | 2050 | 477,873 | 11,110,025 | 2324.9% | 4,145 | 120,353 | 2,798,076 | 2324.9% | 1.5335 | 1.00000 | 0.0265 | 0.9910 | 0.973 | 0.845 | 4.47% | 0.2519 |
| | 2051 | 401,750 | 10,341,949 | 2574.2% | 4,032 | 96,848 | 2,493,077 | 2574.2% | 1.5335 | 1.00000 | 0.0273 | 0.9910 | 0.973 | 0.841 | 4.47% | 0.2411 |
| | 2052 2053 | 335,872 279,226 | 9,572,637 8,809,432 | 2850.1% 3155.0% | 3,904 3,764 | 77,499 61,669 | 2,208,786 1,945,623 | 2850.1% 3155.0% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0318 0.0359 | 0.9910 0.9910 | 0.964 | 0.836 0.831 | 4.47% 4.47% | 0.2307 0.2209 |
| | 2054 | 230,803 | 8,049,980 | 3487.8% | 3,616 | 48,791 | 1,701,744 | 3487.8% | 1.5335 | 1.00000 | 0.0393 | 0.9910 | | 0.827 | 4.47% | 0.2114 |
| | 2055 2056 | 189,736 155,108 | 7,305,719 6,584,765 | 3850.5% 4245.3% | 3,470 3,293 | 38,392 30,041 | 1,478,261 1,275,314 | 3850.5% 4245.3% | 1.5335 1.5335 | 1.00000 | 0.0402 0.0511 | 0.9910 0.9910 | 0.960 0.949 | 0.822 0.817 | 4.47% 4.47% | 0.2023 0.1937 |
| | 2057 | 126,076 | 5,895,524 | 4676.2% | 3,072 | 23,372 | 1,092,919 | 4676.2% | 1.5335 | 1.00000 | 0.0672 | 0.9910 | 0.933 | 0.813 | 4.47% | 0.1854 |
| | 2058 2059 | 101,859 81,770 | 5,248,760 4.636.186 | 5153.0% 5669.8% | 2,818 2.588 | 18,074 13.888 | 931,346 787.415 | 5153.0% 5669.8% | 1.5335 1.5335 | 1.00000 | 0.0825 0.0818 | 0.9910 0.9910 | 0.918 0.918 | 0.808 | 4.47% 4.47% | 0.1774 0.1698 |
| | 2060 | 65,263 | 4,067,206 | 6232.0% | 2,376 | 10,610 | 661,192 | 6232.0% | 1.5335 | 1.00000 | 0.0817 | 0.9910 | 0.918 | 0.798 | 4.47% | 0.1626 |
| | 2061 2062 | 51,742 40,813 | 3,546,574 3,068,112 | 6854.3% 7517.4% | 2,163 1,958 | 8,051 6,079 | 551,861 456,962 | 6854.3% 7517.4% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0896 0.0949 | 0.9910 0.9910 | 0.910 0.905 | 0.793 0.789 | 4.47% 4.47% | 0.1556 0.1489 |
| | 2063 | 31,987 | 2,634,116 | 8235.0% | 1,748 | 4,560 | 375,520 | 8235.0% | 1.5335 | 1.00000 | 0.1073 | 0.9910 | 0.893 | 0.784 | 4.47% | 0.1426 |
| | 2064 | 24,907 | 2,248,628 | 9028.1% | 1,550 | 3,399 | 306,835 | 9028.1% | 1.5335 | 1.00000 | 0.1132 | 0.9910 | 0.887 | 0.779 | 4.47% | 0.1365 |
| | 2065 2066 | 19,264 14,808 | 1,912,170 1,619,267 | 9926.2% 10935.2% | 1,349 1,183 | 2,516 1,851 | 249,748 202,434 | 9926.2% 10935.2% | 1.5335 1.5335 | 1.00000 1.00000 | 0.1296 0.1235 | 0.9910 0.9910 | 0.870 0.876 | 0.773 0.769 | 4.47% 4.47% | 0.1306 0.1250 |
| | 2067 | 11,303 | 1,357,201 | 12007.5% | 1,043 | 1,353 | 162,404 | 12007.5% | 1.5335 | 1.00000 | 0.1180 | 0.9910 | 0.882 | 0.763 | 4.47% | 0.1197 |
| | 2068 2069 | 8,567 6.443 | 1,134,978 936,291 | 13247.7% 14533.0% | 893 774 | 981 706 | 129,996 102.646 | 13247.7% 14533.0% | 1.5335 1.5335 | 1.00000 | 0.1438 0.1334 | 0.9910 0.9910 | 0.856 0.867 | 0.758 0.752 | 4.47% 4.47% | 0.1145 0.1096 |
| | 2070+ | 15,574 | 3,232,646 | 20757.2% | 671 | 1,634 | 339,216 | 20757.2% | 1.5335 | 1.00000 | 0.1334 | 0.9910 | 0.868 | 0.752 N/A | 4.47% | 0.1096 |
| | Past | 125,273,708 | 38,370,495 | 30.6% | 119,917 | 174,429,924 | 51,868,609 | 29.7% | | | | | | _ | | |
| | Future | 128,442,262 | 462,437,832 | 360.0% | 212,307 | 86,549,161 | 196,212,263 | 226.7% | | | | | | | | |
| | Lifetime | 253.715.970 | 500.808.326 | 197.4% | 332.224 | 260.979.085 | 248.080.872 | 95.1% | | | | | | | | |

Lifetime 253.715.970 500.808.326 197.4% 332.224

Note:

- The premiums shown in this exhibit reflect prior rate inreases authorized by Pennsylvania.

- The projections are based on the assumptions derived using experience data through 6/30/2018.

The current requested increase of 6.85% is assumed to be implemented starting 7/1/2020.

Exhibit II-B Demonstration that Lifetime Incurred Claims with Requested Increase are Not Less than Lifetime Earned Premium with Prescribed Factors

| Accumulated value of initial earned premium | 156,603,008 | x | 58% | = | 90,829,744 |
|---|---------------------------|---|-----|---|---------------------------|
| 2a Accumulated value of earned premium 2b Accumulated value of prior premium rate schedule increases (2a-1) | 174,429,924 17,826,917 | x | 85% | = | 15,152,879 |
| 3 Present value of future projected initial earned premium | 57,462,769 | x | 58% | = | 33,328,406 |
| 4a Present value of future projected premium 4b Present value of future projected premium in excess of the projected initial earned premiums (4a-3) | 86,549,161 29,086,392 | x | 85% | = | 24,723,433 |
| 5 Lifetime Earned Premium Times Prescribed Factor: Sum of 1, 2b, 3, and 4b | | | | | 164,034,463 |
| 6a Accumulated value of incurred claims without the inclusion of active life reserves 6b Present value of future projected incurred claims without the inclusion of active life reserves | | | | | 51,868,609 196,212,263 |
| 7 Lifetime Incurred Claims with Rate Increase: Sum of 6a and 6b | | | | | 248,080,872 |
| 8 Test: 7 is not less than 5 | | | | | TRUE |
| | | | | | |

Attachment 1 Metropolitan Life Insurance Company Group Business Assumption Summary

| | Original Pricing Assumptions | Current Be | est Estimate Assum | otions | | | | | | | |
|---------------------------|--|---|--|----------------------|--|-----------|----------|---------|-------|--|--|
| Interest Rate: | 6.00% | which aver | valuation interest rate age to 4.47% | | 3 S, | | | | | | |
| Mortality: | 1983 Group Annuity Mortality Table, adjusted to remove loading. These rates vary by age | | nuity 2000 Basic table lity Selection Factors | | | | | | | | |
| | and sex. | Duration | Mortality Selection | Duration | Martality Calaction | | | | | | |
| | | 1 | 55% | 12 | Mortality Selection 80% | | | | | | |
| | | 2 | 65% | 13 | 82% | | | | | | |
| | | 3 | 70% | 14 | 82% | | | | | | |
| | | 4 | 71% | 15 | 82% | | | | | | |
| | | 5 | 76% | 16 | 84% | | | | | | |
| | | 6 | 77% | 17 | 90% | | | | | | |
| | | 7 | 78% | 18 | 90% | | | | | | |
| | | 8 9 | 78% 80% | 19 20+ | 94% 100% | | | | | | |
| | | 10 | 80% | 201 | 10070 | | | | | | |
| | | 11 | 80% | | | | | | | | |
| | | | 1 | | | | | | 1 | | |
| Voluntary Lapse Rates: | Duration Rates | Duration | Under 40 | 40 to 44 | Issue Age 45 to 49 | 50 to 54 | 55 to 59 | over 59 | | | |
| | 1 5.50% | 1 | 15.60% | 10.20% | 7.60% | 6.50% | 6.10% | 3.30% | l | | |
| | 2 5.30% | 2 | 12.30% | 7.60% | 5.80% | 4.70% | 3.90% | 2.90% | l | | |
| | 3 5.10% | 3 | 10.00% | 7.30% | 5.40% | 4.90% | 3.70% | 2.20% | l | | |
| | 4 4.90% | 4 | 7.90% | 5.70% | 4.10% | 3.50% | 2.90% | 2.00% | l | | |
| | 5 4.80% | 5 | 7.10% | 5.10% | 3.80% | 3.30% | 2.60% | 1.50% | l | | |
| | 6 4.70% | 6 | 5.00% | 3.40% | 3.10% | 2.30% | 2.10% | 1.40% | l | | |
| | 7 4.65% | 7 | 5.00% | 3.40% | 3.10% | 2.30% | 2.10% | 1.40% | l | | |
| | 8 4.60% | 8 | 4.00% | 2.60% | 2.40% | 2.10% | 1.30% | 1.30% | l | | |
| | 9 4.55% | 9 | 4.00% | 2.60% | 2.40% | 2.10% | 1.30% | 1.30% | l | | |
| | 10+ 4.50% | 10 | 4.00% | 2.60% | 2.40% | 2.10% | 1.30% | 1.30% | l | | |
| | | 11 | 4.40% | 2.60% | 2.00% | 0.90% | 1.00% | 1.00% | l | | |
| | | 12 | 4.40% | 2.60% | 2.00% | 0.90% | 1.00% | 1.00% | l | | |
| | | *13+ | 1.80% | 1.30% | 1.00% ned age 65 where appli | 0.80% | 0.70% | 0.70% | l | | |
| | original pricing is not available. Incidence and continuance rates for nursing home based on the 1985 NNHS with modifications. | Duration 1 2 3 4+ | U/W Selection 58% 59% 83% 100% | | | | | | | | |
| Incidence: | Incidence and continuance rates for nursing home based on the 1985 NNHS with modifications. | Sample Ultimate Smoothed Incidence Rates (before gross-up to zero-day elimination) Attained Male Female | | | | | | | | | |
| | | Age | Facility Care | Home Care | Facility Care | Home Care | 4 | | | | |
| | | 81 82 | 1.64% 1.95% | 1.18% | 2.04% | 1.18% | | | | | |
| | | 83 | 2.29% | 1.53% | 2.81% | 1.55% | | | | | |
| | | 84 | 2.66% | 1.71% | 3.24% | 1.76% | | | | | |
| | | 85 | 3.06% | 1.91% | 3.69% | 1.97% | 1 | | | | |
| | | Change Minor refinements to the Home Care incidence assumptions. | | | | | | | | | |
| Continuance: | Incidence and continuance rates for nursing home based on the 1985 NNHS with modifications. | Continuance curves were constructed in 2016 by gender and care path separately for deaths and recoveries. Coefficients to an exponential shaped curve were based on experience adjusted to minimize differences between actual and expected terminations in total as well as at periodic duration points allong the curves. | | | | | | | | | |
| | | modeling a | nd valuation uses. | | ed into a single termina coefficients of the curv | | | | | | |
| Utilization: | Home care prevalence rates were based on 1982-1984 National Long Term Care Surveys with modifications. | | Home Care 60% | Facility Care 71% | 1 | | | | | | |

Attachment 2 Metropolitan Life Insurance Company Nationwide Experience Projections (Premium Normalized to Include Prior Authorized Increases) Actual to Expected Ratios

| | | | rojected Experi | | | ed Pricing Exper | | | | e Loss Ratio as of | |
|------------|----------------|--------------------------------|--------------------------------|-------------------|------------------------------|--------------------------------|--------------------|------------------------|-----------------------|---------------------|------------------------|
| | Calendar | A Earned | B Incurred | C = B / A Loss | D Earned | E Incurred | F = E / D Loss | G = C / F Actual to | H Actual/Projected | I Expected at 6% | J = H / I Actual to |
| | Year | Premium | Claims | Ratio | Premium | Claims | Ratio | Expected Ratio | at 4.47% (on C) | (on F) | Expected Ra |
| | 1989 | 73,088 | 0 | 0.0% | 73,088 | 4,029 | 5.5% | 0.00 | 0.0% | 5.5% | 0.00 |
| | 1990 | 3,257,050 | 98,323 | 3.0% | 5,311,180 | 329,177 | 6.2% | 0.49 | 2.9% | 6.2% | 0.48 |
| | 1991 | 8,385,510 | 142,014 | 1.7% | 10,112,966 | 918,674 | 9.1% | 0.19 | 2.1% | 8.0% | 0.26 |
| | 1992 | 13,462,425 | 1,315,222 | 9.8% | 13,627,176 | 1,676,420 | 12.3% | 0.79 | 6.1% | 9.9% | 0.61 |
| | 1993 | 24,542,532 | 1,901,925 | 7.7% | 25,811,872 | 3,080,002 | 11.9% | 0.65 | 6.9% | 10.8% | 0.63 |
| | 1994 | 29,207,461 | 2,508,403 | 8.6% | 26,445,658 | 4,619,335 | 17.5% | 0.49 | 7.5% | 12.8% | 0.58 |
| | 1995 | 32,821,623 | 3,484,114 | 10.6% | 29,571,488 | 6,322,772 | 21.4% | 0.50 | 8.3% | 14.9% | 0.56 |
| | 1996 | 36,225,167 | 6,221,356 | 17.2% | 32,843,385 | 8,233,368 | 25.1% | 0.69 | 10.3% | 16.9% | 0.61 |
| Historical | 1997 | 41,731,413 | 3,361,627 | 8.1% | 33,261,076 | 10,127,920 | 30.4% | 0.26 | 9.9% | 19.1% | 0.52 |
| Experience | 1998 | 43,940,449 | 7,714,265 | 17.6% | 34,779,640 | 12,278,468 | 35.3% | 0.50 | 11.2% | 21.3% | 0.52 |
| | 1999 | 48,097,051 | 19,963,200 | 41.5% | 41,736,097 | 14,437,295 | 34.6% | 1.20 | 15.7% | 23.1% | 0.68 |
| | 2000 | 55,598,283 | 16,502,514 | 29.7% | 50,139,603 | 17,016,701 | 33.9% | 0.87 | 17.6% | 24.6% | 0.72 |
| | 2001 | 66,614,492 | 24,068,185 | 36.1% | 59,764,759 | 20,224,778 | 33.8% | 1.07 | 20.2% | 25.8% | 0.79 |
| | 2002 | 76,962,588 | 25,845,554 | 33.6% | 68,464,473 | 23,682,297 | 34.6% | 0.97 | 22.0% | 26.8% | 0.82 |
| | 2003 | 84,734,429 | 28,607,127 | 33.8% | 71,644,385 | 27,261,769 | 38.1% | 0.89 | 23.5% | 28.1% | 0.84 |
| | 2004 | 93,549,570 | 29,417,990 | 31.4% | 80,593,438 | 31,638,773 | 39.3% | 0.80 | 24.4% | 29.2% | 0.83 |
| | 2005 | 106,389,491 | 35,602,802 | 33.5% | 90,340,254 | 36,495,479 | 40.4% | 0.83 | 25.4% | 30.3% | 0.84 |
| | 2006 | 121,561,825 | 36,875,172 | 30.3% | 97,421,952 | 41,629,933 | 42.7% | 0.71 | 25.9% | 31.4% | 0.82 |
| | 2007 | 132,858,561 | 46,491,291 | 35.0% | 99,561,785 | 46,874,251 | 47.1% | 0.74 | 26.9% | 32.7% | 0.82 |
| | 2008 | 138,403,077 | 54,716,840 | 39.5% | 97,738,095 | 51,557,726 | 52.8% | 0.75 | 28.0% | 34.1% | 0.82 |
| | 2009 | 141,341,445 | 50,240,716 | 35.5% | 94,966,334 | 56,121,390 | 59.1% 67.5% | 0.60 | 28.7% | 35.6% | 0.81 |
| | 2010 2011 | 141,989,562 142,889,041 | 48,415,921 54,545,282 | 34.1% 38.2% | 89,718,036 84,687,280 | 60,515,268 64,203,430 | 67.5% 75.8% | 0.51 0.50 | 29.1% 29.7% | 37.2% 38.9% | 0.78 0.76 |
| | 2011 | 142,889,041 | 62,091,189 | 38.2% 43.7% | 78,799,915 | 67,286,746 | 75.8% 85.4% | 0.50 | 30.5% | 38.9% 40.6% | 0.76 |
| | 2012 | 162,863,192 | 63,646,086 | 43.7% 39.1% | 78,799,915 | 69,986,365 | 96.0% | 0.51 | 31.0% | 42.3% | 0.75 |
| | 2013 | 189,092,342 | 70,214,415 | 39.1% | 67,021,906 | 72,070,083 | 107.5% | 0.41 | 31.4% | 42.3% 44.0% | 0.73 |
| | 2015 | 187,270,622 | 85,340,894 | 45.6% | 61,486,908 | 73,734,116 | 119.9% | 0.38 | 32.2% | 45.6% | 0.71 |
| | 2016 | 187,556,911 | 95,493,013 | 50.9% | 56,284,154 | 74,959,172 | 133.2% | 0.38 | 33.2% | 47.3% | 0.70 |
| | 2017 | 186,345,406 | 124,213,565 | 66.7% | 51,403,340 | 75,737,804 | 147.3% | 0.45 | 34.8% | 48.9% | 0.71 |
| | 2018 | 180,833,741 | 140,540,754 | 77.7% | 46,831,534 | 76,222,538 | 162.8% | 0.48 | 36.5% | 50.4% | 0.73 |
| | 2019 | 179,854,405 | 134,979,417 | 75.0% | 42,566,892 | 76,568,884 | 179.9% | 0.42 | 38.0% | 51.9% | 0.73 |
| | 2020 | 172,545,082 | 144,912,977 | 84.0% | 38,597,616 | 76,481,363 | 198.2% | 0.42 | 39.6% | 53.3% | 0.74 |
| | 2021 | 165,276,344 | 155,042,377 | 93.8% | 34,917,259 | 76,113,387 | 218.0% | 0.43 | 41.2% | 54.6% | 0.75 |
| | 2022 | 158,038,299 | 165,545,413 | 104.8% | 31,514,459 | 75,633,225 | 240.0% | 0.44 | 42.9% | 55.9% | 0.77 |
| | 2023 | 150,802,397 | 176,551,435 | 117.1% | 28,376,448 | 74,799,329 | 263.6% | 0.44 | 44.7% | 57.1% | 0.78 |
| | 2024 | 143,533,323 | 188,099,230 | 131.0% | 25,497,232 | 73,764,894 | 289.3% | 0.45 | 46.5% | 58.3% | 0.80 |
| | 2025 | 136,230,454 | 200,133,440 | 146.9% | 22,860,210 | 72,677,748 | 317.9% | 0.46 | 48.4% | 59.3% | 0.82 |
| Projected | 2026 | 128,953,454 | 212,548,270 | 164.8% | 20,451,240 | 71,363,566 | 348.9% | 0.47 | 50.4% | 60.3% | 0.84 |
| Experience | 2027 | 121,657,781 | 225,146,784 | 185.1% | 18,263,677 | 69,998,949 | 383.3% | 0.48 | 52.5% | 61.3% | 0.86 |
| | 2028 | 114,394,123 | 237,971,315 | 208.0% | 16,275,994 | 68,686,931 | 422.0% | 0.49 | 54.5% | 62.2% | 0.88 |
| | 2029 | 107,265,394 | 250,810,517 | 233.8% | 14,480,974 | 67,257,280 | 464.5% | 0.50 | 56.7% | 63.0% | 0.90 |
| | 2030 | 100,216,491 | 263,449,743 | 262.9% | 12,860,337 | 65,791,146 | 511.6% | 0.51 | 58.8% | 63.8% | 0.92 |
| | 2031 | 93,279,467 | 275,730,380 | 295.6% | 11,398,924 | 64,372,349 | 564.7% | 0.52 | 61.0% | 64.5% | 0.95 |
| | 2032 | 86,502,095 | 287,376,392 | 332.2% | 10,086,638 | 62,866,128 | 623.3% | 0.53 | 63.2% | 65.2% | 0.97 |
| | 2033 | 79,874,951 | 298,176,293 | 373.3% | 8,912,477 | 61,330,583 | 688.1% | 0.54 | 65.5% | 65.8% | 1.00 |
| | 2034 | 73,419,231 | 307,844,461 | 419.3% | 7,860,976 | 59,816,976 | 760.9% | 0.55 | 67.7% | 66.4% | 1.02 |
| | 2035 | 67,195,282 | 315,998,872 | 470.3% | 6,922,734 | 58,196,726 | 840.7% | 0.56 | 69.9% | 66.9% | 1.04 |
| | 2036 | 61,196,639 | 322,439,051 | 526.9% | 6,083,148 | 56,549,556 | 929.6% | 0.57 | 72.0% | 67.4% | 1.07 |
| | 2037 | 55,446,846 | 327,292,319 | 590.3% | 5,332,277 | 54,940,188 | 1030.3% | 0.57 | 74.1% | 67.8% | 1.09 |
| | 2038 | 50,017,876 | 330,293,108 | 660.4% | 4,667,427 | 53,277,041 | 1141.5% | 0.58 | 76.2% | 68.3% | 1.12 |
| | 2039 | 44,896,939 | 331,044,062 | 737.3% | 4,075,550 | 51,578,188 | 1265.6% 1402.5% | 0.58 | 78.2% | 68.6% | 1.14 |
| | 2040 | 40,100,900 35,638,286 | 329,556,826 326,050,406 | 821.8% 914.9% | 3,549,036 3,084,069 | 49,775,407 47,831,245 | 1402.5% 1550.9% | 0.59 | 80.1% 81.9% | 69.0% 69.3% | 1.16 |
| | 2041 | 35,638,286 | 326,050,406 | 914.9% 1017.6% | 2,670,023 | 47,831,245 45,833,972 | 1550.9% | 0.59 | 81.9% 83.7% | 69.3% 69.6% | 1.18 |
| | 2042 2043 | 27,717,481 | 320,644,871 313,388,572 | 1017.6% | 2,305,719 | 45,833,972 | 1716.6% | 0.59 0.60 | 83.7% 85.3% | 69.6% 69.9% | 1.20 1.22 |
| | 2043 | 24,254,172 | 304,437,745 | 1255.2% | 1,986,011 | 41,420,050 | 2085.6% | 0.60 | 86.8% | 70.1% | 1.24 |
| | 2044 | 21,112,367 | 293,941,395 | 1392.3% | 1,705,128 | 39,208,006 | 2299.4% | 0.61 | 88.2% | 70.1% | 1.24 |
| | 2045 | 18,280,565 | 282,098,762 | 1543.2% | 1,458,304 | 36,985,383 | 2536.2% | 0.61 | 89.5% | 70.5% | 1.27 |
| | 2040 | 15,743,943 | 269,053,633 | 1708.9% | 1,243,293 | 34,815,193 | 2800.2% | 0.61 | 90.7% | 70.7% | 1.28 |
| | 2048 | 13,485,726 | 255,126,266 | 1891.8% | 1,055,463 | 32,676,900 | 3096.0% | 0.61 | 91.8% | 70.8% | 1.30 |
| | 2049 | 11,488,614 | 240,446,363 | 2092.9% | 893,288 | 30,443,218 | 3408.0% | 0.61 | 92.8% | 70.9% | 1.31 |
| | 2050 | 9,734,896 | 225,260,499 | 2313.9% | 754,026 | 28,108,556 | 3727.8% | 0.62 | 93.6% | 71.1% | 1.32 |
| | 2051 | 8,204,526 | 209,824,719 | 2557.4% | 632,787 | 25,682,760 | 4058.7% | 0.63 | 94.4% | 71.2% | 1.33 |
| | 2052 | 6,877,171 | 194,286,488 | 2825.1% | 529,093 | 23,227,989 | 4390.2% | 0.64 | 95.1% | 71.2% | 1.34 |
| | 2053 | 5,732,558 | 178,809,370 | 3119.2% | 440,783 | 20,881,279 | 4737.3% | 0.66 | 95.8% | 71.3% | 1.34 |
| | 2054 | 4,752,635 | 163,626,550 | 3442.9% | 366,143 | 18,505,384 | 5054.1% | 0.68 | 96.3% | 71.4% | 1.35 |
| | 2055 | 3,919,684 | 148,845,570 | 3797.4% | 303,067 | 16,111,346 | 5316.1% | 0.71 | 96.8% | 71.4% | 1.36 |
| | 2056 | 3,215,464 | 134,596,659 | 4185.9% | 249,979 | 13,781,442 | 5513.0% | 0.76 | 97.2% | 71.5% | 1.36 |
| | 2057 | 2,623,337 | 121,019,745 | 4613.2% | 206,006 | 11,629,508 | 5645.2% | 0.82 | 97.5% | 71.5% | 1.36 |
| | 2058 | 2,128,280 | 108,244,637 | 5086.0% | 169,243 | 9,724,792 | 5746.0% | 0.89 | 97.9% | 71.5% | 1.37 |
| | 2059 | 1,717,112 | 96,256,777 | 5605.7% | 139,041 | 8,056,167 | 5794.1% | 0.97 | 98.1% | 71.5% | 1.37 |
| | 2060 | 1,377,916 | 85,101,342 | 6176.1% | 114,085 | 6,644,538 | 5824.2% | 1.06 | 98.3% | 71.5% | 1.37 |
| | D | 0.000.011.00 | 4 400 5=0 ==: | 40 *** | 1 070 0 10 01 | 4 0 40 6 10 000 | 00 ==: | 0.00 | 20 ==: | 50 *** | |
| | Past Future | 2,820,611,603 2,580,213,236 | 1,139,579,759 9,752,003,051 | 40.4% 378.0% | 1,673,343,917 395,857,078 | 1,049,246,078 1,977,020,907 | 62.7% 499.4% | 0.64 0.76 | 36.5% 255.5% | 50.4% 354.3% | 0.73 0.72 |
| | Lifetime | 5,400,824,840 | 10,891,582,810 | 201.7% | 2,069,200,995 | 3,026,266,985 | 146.3% | 1.38 | 98.3% | 72.0% | 1.37 |

Note:
- Figures in column A are normalized to reflect the prior rate action authorized by Pennsylvannia rather than the prior rate action approved by other states.
- Figures in column D do not reflect any rate action.

Attachment 3 Metropolitan Life Insurance Company Nationwide Experience Projections (Premium Normalized to Include Prior Authorized Increases) Actual to Expected Ratios

| | Actual | / Projected Experi | ence | Expect | ed Pricing Experie | nce | |
|------------------|----------------------------|----------------------------|----------------|--------------------------|--------------------------|------------------|----------------|
| | Actual Exp | erience through 12 | 2/31/2018 | Reproduced | d based on Original | Pricing | 1 |
| | Projections ba | sed on Current A | | | ptions since incept | | |
| | Α | В | C = B / A | D | E | F = E / D | G = C / F |
| | Earned | Incurred | Loss | Earned | Incurred | Loss | Actual to |
| Duration | Premium | Claims | Ratio | Premium | Claims | Ratio | Expected Ratio |
| 1 | 109,211,753 | 17,639,534 | 16.2% | 103,097,706 | 5,683,649 | 5.5% | 2.93 |
| 2 | 181,678,373 | 14,382,125 | 7.9% | 171,360,628 | 20,953,104 | 12.2% | 0.65 |
| 3 | 170,882,694 | 15,882,104 | 9.3% | 158,818,285 | 28,457,066 | 17.9% | 0.52 |
| 4 | 163,705,671 | 23,305,970 | 14.2% | 147,274,304 | 35,627,975 | 24.2% | 0.59 |
| 5 | 160,290,888 | 26,156,859 | 16.3% | 136,457,042 | 43,500,661 | 31.9% | 0.51 |
| 6 | 157,360,455 | 23,593,986 | 15.0% | 126,336,500 | 55,541,985 | 44.0% | 0.34 |
| 7 | 156,477,923 | 36,645,895 | 23.4% | 116,680,376 | 60,824,280 | 52.1% | 0.45 |
| 8 | 156,867,413 | 42,113,822 | 26.8% | 107,509,122 | 63,561,205 | 59.1% | 0.45 |
| 9 | 157,794,086 | 45,202,572 | 28.6% 33.4% | 99,008,523 | 67,919,789 | 68.6% | 0.42 |
| 10 | 159,567,433 | 53,264,503 | | 90,970,313 | 70,420,795 | 77.4% | 0.43 |
| 11 | 161,695,775 | 56,698,806 | 35.1% | 83,439,578 | 71,649,125 75.342.317 | 85.9% | 0.41 |
| 12 13 | 161,997,432 | 63,046,407 | 38.9% | 76,299,034 | - / - / - | 98.7% | 0.39 |
| 13 | 165,248,246 169,290,967 | 66,026,003 | 40.0% 45.4% | 69,560,477 | 77,221,731 | 111.0% | 0.36 |
| | , , | 76,932,429 | | 63,251,299 | 78,053,325 | 123.4% | 0.37 |
| 15 | 168,977,528 | 89,744,611 | 53.1% | 57,325,991 | 80,677,569 | 140.7% | 0.38 |
| 16 17 | 169,379,855 | 95,717,826 | 56.5% | 51,839,802 | 81,105,167 | 156.5% | 0.36 |
| 1 <i>7</i> 18 | 169,746,557 167,350,685 | 103,406,948 119,461,483 | 60.9% 71.4% | 46,766,568 42,035,652 | 80,994,286 82,285,425 | 173.2% 195.8% | 0.35 0.36 |
| 19 | | 128,747,533 | 78.6% | 37,732,817 | | 216.8% | 0.36 |
| 20 | 163,786,016 160,239,239 | , , | | | 81,805,767 | | |
| 20 | , , | 141,913,336 148,269,439 | 88.6% 95.0% | 33,753,616 | 80,282,014 | 237.8% 264.3% | 0.37 0.36 |
| 22 | 156,003,646 | , , | 110.9% | 30,148,995 26.853.682 | 79,683,011 77,836,956 | 289.9% | 0.38 |
| 23 | 149,962,425 144.601.897 | 166,345,133 186,091,257 | 128.7% | 23,859,317 | 75,429,536 | 269.9% 316.1% | 0.36 |
| 24 | 139,789,000 | 202,977,087 | 145.2% | 21,174,388 | 74,653,590 | 352.6% | 0.41 |
| 25 | 133,764,106 | 222,286,112 | 166.2% | 18,765,584 | 72,901,932 | 388.5% | 0.43 |
| 26 | 127,547,612 | 238,860,835 | 187.3% | 16,577,171 | 70,617,790 | 426.0% | 0.44 |
| 27 | 122,195,123 | 255,762,253 | 209.3% | 14,633,500 | 70,080,798 | 478.9% | 0.44 |
| 28 | 115,121,544 | 273,253,441 | 237.4% | 12,876,654 | 68,650,989 | 533.1% | 0.45 |
| 29 | 107.961.511 | 284,373,998 | 263.4% | 11,360,426 | 66,964,157 | 589.5% | 0.45 |
| 30 | 101,081,248 | 299,296,023 | 296.1% | 10,003,331 | 66,209,907 | 661.9% | 0.45 |
| 31 | 93,548,473 | 312,182,920 | 333.7% | 8,770,661 | 64,163,546 | 731.6% | 0.46 |
| 32 | 86,200,346 | 323,342,482 | 375.1% | 7,682,739 | 62,012,506 | 807.2% | 0.46 |
| 33 | 79,087,269 | 332,769,559 | 420.8% | 6,710,210 | 60,871,075 | 907.1% | 0.46 |
| 34 | 72,245,318 | 340,232,788 | 470.9% | 5,843,295 | 59,040,309 | 1010.4% | 0.47 |
| 35 | 65,682,964 | 345,565,285 | 526.1% | 5,132,022 | 57,121,977 | 1113.1% | 0.47 |
| 36 | 59,447,254 | 348,801,899 | 586.7% | 4,439,674 | 55,785,198 | 1256.5% | 0.47 |
| 37 | 53,544,305 | 349,763,990 | 653.2% | 3,851,267 | 54,210,767 | 1407.6% | 0.46 |
| 38 | 48,009,336 | 348,442,547 | 725.8% | 3,315,743 | 52,540,110 | 1584.6% | 0.46 |
| 39 | 42,850,047 | 344,826,229 | 804.7% | 2,856,766 | 51,489,229 | 1802.4% | 0.45 |
| 40 | 38,062,491 | 339,094,029 | 890.9% | 2,457,829 | 49,851,407 | 2028.3% | 0.44 |
| 41 | 33,662,794 | 331,524,081 | 984.8% | 2,104,301 | 47,702,035 | 2266.9% | 0.43 |
| 42 | 29,631,844 | 322,270,826 | 1087.6% | 1,784,894 | 46,115,027 | 2583.6% | 0.42 |
| 43 | 25,960,341 | 311,424,215 | 1199.6% | 1,518,520 | 44,122,427 | 2905.6% | 0.41 |
| 44 | 22,635,140 | 299,254,981 | 1322.1% | 1,281,959 | 42,035,137 | 3279.0% | 0.40 |
| 45 | 19,643,598 | 286,111,008 | 1456.5% | 1,077,682 | 40,263,559 | 3736.1% | 0.39 |
| 46 | 16,975,688 | 272,074,400 | 1602.7% | 915,457 | 38,122,461 | 4164.3% | 0.38 |
| 47 | 14,603,361 | 257,432,040 | 1762.8% | 765,311 | 36,058,859 | 4711.7% | 0.37 |
| 48 | 12,504,126 | 242,395,142 | 1938.5% | 613,955 | 34,206,922 | 5571.6% | 0.35 |
| 49 | 10,657,679 | 227,100,357 | 2130.9% | 522,180 | 32,218,925 | 6170.1% | 0.35 |
| 50 | 9,040,639 | 211,707,433 | 2341.7% | 425,690 | 30,126,161 | 7077.0% | 0.33 |
| 51 | 7,631,139 | 196,361,436 | 2573.2% | 347,029 | 24,559,341 | 7077.0% | 0.36 |
| 52 | 6,408,978 | 181,098,364 | 2825.7% | 282,904 | 20,021,177 | 7077.0% | 0.40 |
| 53 | 5,354,605 | 166,083,684 | 3101.7% | 230,628 | 16,321,592 | 7077.0% | 0.44 |
| 54 | 4,449,415 | 151,416,829 | 3403.1% | 188,012 | 13,305,630 | 7077.0% | 0.48 |
| 55 | 3,676,384 | 137,244,981 | 3733.2% | 153,270 | 10,846,968 | 7077.0% | 0.53 |
| 56 | 3,019,621 | 123,697,388 | 4096.5% | 124,948 | 8,842,626 | 7077.0% | 0.58 |
| 57 | 2,464,568 | 110,820,245 | 4496.5% | 101,860 | 7,208,654 | 7077.0% | 0.64 |
| 58 | 1,998,273 | 98,618,739 | 4935.2% | 83,038 | 5,876,613 | 7077.0% | 0.70 |
| 59 | 1,608,944 | 87,149,882 | 5416.6% | 67,694 | 4,790,711 | 7077.0% | 0.77 |
| 60 | 1,285,921 | 76,477,457 | 5947.3% | 55,185 | 3,905,466 | 7077.0% | 0.84 |
| | · | | | | | | |
| ifetime | 5,401,467,961 | 10,992,683,544 | 203.5% | 2,069,475,403 | 3,038,672,312 | 146.8% | 1.39 |

Lifetime

⁻ Figures in column A are normalized to reflect the prior rate action authorized by Pennsylvannia rather than the prior rate action approved by other states.

⁻ Figures in column D do not reflect any rate action.

* Columns A and B are discounted back to the inception date at an interest rate of 4.47%, which is the weighted average maximum valuation interest rate for contract reserves. Columns D and E are discounted back to the inception date at the original pricing interest rate of 6%.

Attachment 4
Metropolitan Life Insurance Company
Actual-to-Expected Results - Lapse
Group Business

| | L | _apse | |
|--------------------|--------|-------------------------|--------|
| Policy Duration | Actual | Expected ^{1,2} | A/E% |
| 1 | 23,387 | 31,077 | 75.3% |
| 2 | 21,027 | 21,607 | 97.3% |
| 3 | 16,139 | 17,791 | 90.7% |
| 4 | 13,722 | 12,884 | 106.5% |
| 5 | 11,258 | 10,788 | 104.4% |
| 6 | 8,879 | 7,609 | 116.7% |
| 7 | 7,345 | 7,207 | 101.9% |
| 8 | 6,891 | 5,146 | 133.9% |
| 9 | 5,229 | 4,768 | 109.7% |
| 10 | 5,790 | 4,516 | 128.2% |
| 11 | 4,505 | 3,336 | 135.0% |
| 12 | 3,105 | 3,087 | 100.6% |
| 13+ | 11,400 | 9,048 | 126.0% |

Attachment 4
Metropolitan Life Insurance Company
Actual-to-Expected Results - Mortality
Group Business

| | Me | ortality | |
|--------------------|--------|-----------------------|---------|
| Policy Duration | Actual | Expected ¹ | A/E% |
| 1 | 791 | 764 | 103.58% |
| 2 | 966 | 934 | 103.44% |
| 3 | 1,097 | 1,050 | 104.48% |
| 4 | 1,160 | 1,110 | 104.49% |
| 5 | 1,296 | 1,241 | 104.47% |
| 6 | 1,318 | 1,315 | 100.21% |
| 7 | 1,449 | 1,396 | 103.83% |
| 8 | 1,391 | 1,329 | 104.63% |
| 9 | 1,462 | 1,401 | 104.36% |
| 10 | 1,442 | 1,450 | 99.45% |
| 11 | 1,510 | 1,458 | 103.56% |
| 12 | 1,493 | 1,447 | 103.18% |
| 13 | 1,506 | 1,446 | 104.17% |
| 14 | 1,433 | 1,381 | 103.77% |
| 15 | 1,424 | 1,378 | 103.31% |
| 16 | 1,454 | 1,391 | 104.52% |
| 17 | 1,462 | 1,401 | 104.33% |
| 18 | 1,327 | 1,276 | 103.99% |
| 19 | 1,270 | 1,223 | 103.83% |
| 20+ | 7,326 | 7,034 | 104.15% |

¹ The expecteds are based on current best estimate assumptions.

² Experience based on most recent five years only. The majority of the remaining policies are in their 13th duration or later, as a result, the results for duration 12 and before are no longer relevant.

Attachment 4 Metropolitan Life Insurance Company Actual to Expected Incidence Group Business

| | | | Fen | nale | | | | | M | ale | | |
|--------------|----------------------------|------------------------------|------|-------------------------------|------------------------------|------|-------------------------------|------------------------------|------|-------------------------------|------------------------------|------|
| | | Facility Care |) | | Home Care | | | Facility Care | 9 | | Home Care | |
| Attained Age | Actual Claims ¹ | Expected Claims ² | A/E% | Actual Claims ¹ | Expected Claims ² | A/E% | Actual Claims ¹ | Expected Claims ² | A/E% | Actual Claims ¹ | Expected Claims ² | A/E% |
| under 50 | 18 | 64 | 28% | 48 | 60 | 79% | 24 | 50 | 48% | 69 | 49 | 141% |
| 50 to 54 | 27 | 70 | 39% | 74 | 66 | 111% | 24 | 56 | 43% | 63 | 56 | 113% |
| 55 to 59 | 48 | 113 | 42% | 124 | 107 | 116% | 43 | 93 | 46% | 93 | 93 | 100% |
| 60 to 64 | 115 | 153 | 75% | 142 | 140 | 102% | 113 | 134 | 85% | 142 | 132 | 108% |
| 65 to 69 | 237 | 201 | 118% | 210 | 153 | 137% | 203 | 171 | 118% | 171 | 156 | 110% |
| 70 to 74 | 495 | 466 | 106% | 270 | 239 | 113% | 375 | 356 | 105% | 289 | 244 | 118% |
| 75 to 79 | 984 | 960 | 103% | 379 | 367 | 103% | 682 | 686 | 99% | 347 | 334 | 104% |
| 80 to 84 | 1,441 | 1,420 | 101% | 439 | 441 | 99% | 933 | 956 | 98% | 330 | 347 | 95% |
| 85 to 89 | 1,210 | 1,198 | 101% | 308 | 342 | 90% | 758 | 759 | 100% | 222 | 232 | 95% |
| over 89 | 520 | 523 | 100% | 140 | 148 | 94% | 326 | 305 | 107% | 93 | 105 | 89% |
| Total | 5,095 | 5,168 | 99% | 2,134 | 2,065 | 103% | 3,481 | 3,565 | 98% | 1,819 | 1,748 | 104% |

¹ Based on actual experience through 6/30/2018.

² The expected claims are based on current best estimate assumptions.

Attachment 4
Metropolitan Life Insurance Company
Actual to Expected Claim Termination
All Business (exclude AARP-Pru)

| Claim Duration (Months) | Actual Deaths | Expected Deaths ¹ | Actual Recoveries | Expected Recoveries ¹ | Deaths A/E% | Recoveries A/E% | Total A/E% |
|-------------------------|------------------|---------------------------------|----------------------|-------------------------------------|----------------|--------------------|------------|
| 1 | 970 | 678 | 69 | 107 | 143% | 64% | 132% |
| 2 | 850 | 1,334 | 180 | 257 | 64% | 70% | 65% |
| 3 | 891 | 1,224 | 251 | 254 | 73% | 99% | 77% |
| 4 | 1,019 | 1,394 | 336 | 294 | 73% | 114% | 80% |
| 5 | 1,036 | 1,191 | 312 | 246 | 87% | 127% | 94% |
| 6 | 885 | 1,001 | 228 | 201 | 88% | 113% | 93% |
| 7 | 799 | 844 | 203 | 168 | 95% | 121% | 99% |
| 8 | 722 | 734 | 151 | 139 | 98% | 108% | 100% |
| 9 | 668 | 649 | 126 | 117 | 103% | 108% | 104% |
| 10 | 618 | 588 | 124 | 100 | 105% | 124% | 108% |
| 11 | 553 | 544 | 98 | 87 | 102% | 112% | 103% |
| 12 | 616 | 512 | 94 | 77 | 120% | 122% | 121% |
| 13 | 500 | 483 | 89 | 69 | 103% | 129% | 107% |
| 14+ | 15,204 | 13,659 | 1,350 | 1,476 | 111% | 91% | 109% |
| Total | 25,331 | 24,835 | 3,611 | 3,594 | 102% | 100% | 102% |

¹ The expected deaths and recoveries are based on current best estimate assumptions.

Attachment 9-A Metropolitan Life Insurance Company Nationwide Experience Projections (Premium Normalized to Include Prior Authorized Increases)

| | , , | | | l ann n | atio Demonst | ration | | | Ea | ore Darland for | om Projected Values fo | e Illigate | ivo Burness - | Only | Interest D | te Factors |
|---------------------|------------------|----------------------------|----------------------------|----------------------|------------------------|--------------------------------|--------------------------------|----------------------|-------------------------|----------------------|--------------------------|---------------------|-----------------------|------------------------|-----------------------|------------------------|
| | | | /ithout Interest | LOSS R | atio Demonst | | With Interest | | Premium | ors Derived fro | Pe | ersistency | | | Calendar Year | Mid-Year |
| | Calendar Year | Earned Premium | Paid Claims | Loss Ratio | Life Years | Earned Premium | Paid Claims | Loss Ratio | Rate Increase Factor | Benefit Downgrade | | Policy ock Lapse | Policy Persistency | Premium Persistency | Effective Int Rate | Disc / Accum Factor |
| | 1989 | 73,088 | | 0.0% | 649 | 265,877 | | 0.0% | Factor | Downgrade | Lapse & Mortality Sitc | JUK Edipse | reisistericy | reisistericy | 4.47% | 3.6378 |
| | 1990 1991 | 3,257,050 8,385,510 | 98,323 142,014 | 3.0% | 9,365 27,399 | 11,340,863 27,947,297 | 342,354 473,305 | 3.0% 1.7% | | | | | | | 4.47% 4.47% | 3.4819 |
| | 1991 | 13.462.425 | 1,315,222 | 9.8% | 34,519 | 42,945,965 | 4,195,638 | 9.8% | | | | | | | 4.47% | 3.3328 |
| | 1993 | 24,542,532 | 1,901,925 | 7.7% | 57,383 | 74,938,870 | 5,807,393 | 7.7% | | | | | | | 4.47% | 3.0534 |
| | 1994 1995 | 29,207,461 32.821.623 | 2,508,403 3,484,114 | 8.6% 10.6% | 59,284 63,893 | 85,363,121 91.817.454 | 7,331,179 9,746,699 | 8.6% 10.6% | | | | | | | 4.47% 4.47% | 2.9226 2.7975 |
| | 1996 | 36,225,167 | 6,221,356 | 17.2% | 76,547 | 96,998,343 | 16,658,619 | 17.2% | | | | | | | 4.47% | 2.6777 |
| | 1997 1998 | 41,731,413 43,940,449 | 3,361,627 | 8.1% 16.8% | 78,740 82,595 | 106,956,139 107,794,308 | 8,615,732 18,155,238 | 8.1% 16.8% | | | | | | | 4.47% 4.47% | 2.5630 2.4532 |
| | 1998 | 43,940,449 | 7,400,663 19,903,012 | 41.4% | 82,595 95,693 | 107,794,308 | 18,155,238 46,734,635 | 41.4% | | | | | | | 4.47% | 2.4532 |
| | 2000 | 55,598,283 | 15,341,470 | 27.6% | 111,642 | 124,959,751 | 34,480,673 | 27.6% | | | | | | | 4.47% | 2.2475 |
| Historical | 2001 2002 | 66,614,492 76,962,588 | 23,296,986 25.824.880 | 35.0% 33.6% | 138,474 154,041 | 143,306,604 158,476,862 | 50,118,403 53,177,083 | 35.0% 33.6% | | | | | | | 4.47% 4.47% | 2.1513 2.0591 |
| Experience | 2002 | 84,734,429 | 27,262,857 | 32.2% | 161,514 | 167,007,058 | 53,733,643 | 32.2% | | | | | | | 4.47% | 1.9709 |
| | 2004 | 93,549,570 | 29,011,708 | 31.0% | 177,688 | 176,484,037 | 54,731,448 | 31.0% | | | | | | | 4.47% | 1.8865 |
| | 2005 2006 | 106,389,491 121,561,825 | 33,953,523 35,342,958 | 31.9% 29.1% | 193,671 207,903 | 192,110,489 210,105,912 | 61,310,830 61,086,319 | 31.9% 29.1% | | | | | | | 4.47% 4.47% | 1.8057 1.7284 |
| | 2007 | 132,858,561 | 45,028,895 | 33.9% | 211,594 | 219,795,765 | 74,493,961 | 33.9% | | | | | | | 4.47% | 1.6544 |
| | 2008 2009 | 138,403,077 141,341,445 | 51,819,969 | 37.4% 34.2% | 211,070 | 219,161,487 214,228,247 | 82,057,002 | 37.4% 34.2% | | | | | | | 4.47% | 1.5835 |
| | 2009 | 141,341,445 | 48,299,312 46,028,904 | 34.2% | 199,029 193.053 | 205.992.943 | 73,206,249 66,776,946 | 34.2% | | | | | | | 4.47% 4.47% | 1.5157 1.4508 |
| | 2011 | 142,889,041 | 50,689,248 | 35.5% | 187,553 | 198,419,139 | 70,388,302 | 35.5% | | | | | | | 4.47% | 1.3886 |
| | 2012 2013 | 142,013,255 162.863.192 | 54,145,282 53.843.020 | 38.1% 33.1% | 178,477 170,629 | 188,756,638 207,197,738 | 71,967,095 68.500.143 | 38.1% 33.1% | | | | | | | 4.47% 4.47% | 1.3291 |
| | 2014 | 189,092,342 | 51,316,061 | 27.1% | 165,636 | 230,263,300 | 62,489,075 | 27.1% | | | | | | | 4.47% | 1.2177 |
| | 2015 | 187,270,622 | 56,233,400 | 30.0% | 160,865 | 218,277,590 | 65,544,136 46,597,482 | 30.0% | | | | | | | 4.47% | 1.1656 |
| | 2016 2017 | 187,556,911 186,345,406 | 41,767,092 29,221,373 | 22.3% 15.7% | 156,155 151,817 | 209,247,985 198,992,000 | 46,597,482 31,204,523 | 22.3% 15.7% | | | | | | | 4.47% 4.47% | 1.1157 1.0679 |
| | 2018 | 180,833,741 | 9,109,991 | 5.0% | 147,355 | 184,835,382 | 9,311,585 | 5.0% | | | | | | | 4.47% | 1.0221 |
| Projected Future | 2019 2020 | 179,854,405 172,545,082 | 24,293,532 57.644.053 | 13.5% 33.4% | 145,563 143,936 | 175,960,601 161,579,276 | 23,767,583 53,980,584 | 13.5% 33.4% | 1.4356 1.4356 | N/A N/A | 0.0122 0.0112 | N/A N/A | 0.988 0.989 | 0.995 0.959 | 4.47% 4.47% | 0.9784 0.9364 |
| Experience | 2021 | 165,276,344 | 86,938,230 | 52.6% | 141,622 | 148,143,460 | 77,926,035 | 52.6% | 1.4356 | N/A | 0.0161 | N/A | 0.984 | 0.958 | 4.47% | 0.8963 |
| | 2022 2023 | 158,038,299 150,802,397 | 113,293,590 137,185,204 | 71.7% 91.0% | 140,234 138,939 | 135,588,498 123,839,007 | 97,199,905 112,656,562 | 71.7% 91.0% | 1.4356 1.4356 | N/A N/A | 0.0098 0.0092 | N/A N/A | 0.990 0.991 | 0.956 0.954 | 4.47% 4.47% | 0.8579 0.8212 |
| | 2023 | 150,802,397 | 157,185,204 | 109.9% | 138,939 | 112.821.189 | 124,022,779 | 109.9% | 1.4356 | N/A N/A | 0.0092 | N/A N/A | 0.991 | 0.954 | 4.47% | 0.8212 |
| | 2025 | 136,230,454 | 176,926,266 | 129.9% | 136,495 | 102,494,568 | 133,112,537 | 129.9% | 1.4356 | N/A | 0.0087 | N/A | 0.991 | 0.949 | 4.47% | 0.7524 |
| | 2026 2027 | 128,953,454 121,657,781 | 193,843,117 208.944.963 | 150.3% 171.7% | 135,320 134,175 | 92,864,204 83.857.897 | 139,593,677 144,024,370 | 150.3% 171.7% | 1.4356 1.4356 | N/A N/A | 0.0086 0.0085 | N/A N/A | 0.991 | 0.947 0.943 | 4.47% 4.47% | 0.7201 0.6893 |
| | 2028 | 114,394,123 | 223,793,695 | 195.6% | 133,053 | 75,473,850 | 147,652,444 | 195.6% | 1.4356 | N/A | 0.0084 | N/A | 0.992 | 0.940 | 4.47% | 0.6598 |
| | 2029 | 107,265,394 100.216.491 | 238,765,975 253,497,459 | 222.6% 252.9% | 131,949 130,844 | 67,739,368 60.577,230 | 150,783,544 153,230,011 | 222.6% 252.9% | 1.4356 1.4356 | N/A N/A | 0.0083 | N/A N/A | 0.992 | 0.938 | 4.47% 4.47% | 0.6315 0.6045 |
| | 2030 | 93,279,467 | 267,944,279 | 252.9% | 129,759 | 53,969,077 | 155,025,602 | 252.9% | 1.4356 | N/A N/A | 0.0084 | N/A N/A | 0.992 | 0.934 | 4.47% | 0.5786 |
| | 2032 | 86,502,095 | 282,225,448 | 326.3% | 128,634 | 47,904,276 | 156,294,546 | 326.3% | 1.4356 | N/A | 0.0087 | N/A | 0.991 | 0.927 | 4.47% | 0.5538 |
| | 2033 | 79,874,951 73,419,231 | 296,180,678 309,601,398 | 370.8% 421.7% | 127,506 126,339 | 42,339,622 37,250,741 | 156,997,628 157,082,569 | 370.8% 421.7% | 1.4356 1.4356 | N/A N/A | 0.0088 0.0092 | N/A N/A | 0.991 0.991 | 0.923 0.919 | 4.47% 4.47% | 0.5301 0.5074 |
| | 2035 | 67,195,282 | 322,211,759 | 479.5% | 125,087 | 32,632,668 | 156,478,684 | 479.5% | 1.4356 | N/A | 0.0099 | N/A | 0.990 | 0.915 | 4.47% | 0.4856 |
| | 2036 2037 | 61,196,639 55,446,846 | 333,744,148 343.951.281 | 545.4% 620.3% | 123,802 122,405 | 28,446,582 24.669,939 | 155,137,280 153.034.081 | 545.4% 620.3% | 1.4356 1.4356 | N/A N/A | 0.0103 0.0113 | N/A N/A | 0.990 | 0.911 0.906 | 4.47% 4.47% | 0.4648 0.4449 |
| | 2037 | 50,446,846 | 343,951,281 | 705.1% | 122,405 | 24,669,939 | 153,034,081 | 705.1% | 1.4356 | N/A N/A | 0.0113 | N/A N/A | 0.989 | 0.906 | 4.47% | 0.4449 |
| | 2039 | 44,896,939 | 359,656,863 | 801.1% | 119,390 | 18,301,446 | 146,607,778 | 801.1% | 1.4356 | N/A | 0.0128 | N/A | 0.987 | 0.898 | 4.47% | 0.4076 |
| | 2040 2041 | 40,100,900 35,638,286 | 364,632,420 367,458,774 | 909.3% 1031.1% | 117,631 115.814 | 15,646,294 13.309.536 | 142,269,778 137,231,784 | 909.3% 1031.1% | 1.4356 1.4356 | N/A N/A | 0.0147 0.0155 | N/A N/A | 0.985 0.985 | 0.893 0.889 | 4.47% 4.47% | 0.3902 0.3735 |
| | 2042 | 31,510,732 | 368,086,745 | 1168.1% | 113,879 | 11,264,017 | 131,578,515 | 1168.1% | 1.4356 | N/A | 0.0167 | N/A | 0.983 | 0.884 | 4.47% | 0.3575 |
| | 2043 2044 | 27,717,481 24,254,172 | 366,508,073 362,748,004 | 1322.3% 1495.6% | 111,825 109,791 | 9,483,688 7,943,258 | 125,402,751 118.800.226 | 1322.3% 1495.6% | 1.4356 1.4356 | N/A N/A | 0.0180 0.0182 | N/A N/A | 0.982 | 0.880 0.875 | 4.47% 4.47% | 0.3422 0.3275 |
| | 2044 | 24,254,172 | 352,748,004 | 1690.4% | 109,791 | 7,943,258 6.618.169 | 111,871,967 | 1690.4% | 1.4356 | N/A N/A | 0.0182 | N/A N/A | 0.982 | 0.875 | 4.47% | 0.3275 |
| | 2046 | 18,280,565 | 349,007,122 | 1909.2% | 105,360 | 5,485,034 | 104,718,630 | 1909.2% | 1.4356 | N/A | 0.0210 | N/A | 0.979 | 0.866 | 4.47% | 0.3000 |
| | 2047 2048 | 15,743,943 13,485,726 | 339,277,027 327,849,647 | 2155.0% 2431.1% | 103,045 100,496 | 4,521,597 3,707,161 | 97,439,003 90,124,281 | 2155.0% 2431.1% | 1.4356 1.4356 | N/A N/A | 0.0220 0.0247 | N/A N/A | 0.978 0.975 | 0.861 0.857 | 4.47% 4.47% | 0.2872 0.2749 |
| | 2049 | 11,488,614 | 314,932,504 | 2741.3% | 97,813 | 3,022,898 | 82,865,412 | 2741.3% | 1.4356 | N/A | 0.0267 | N/A | 0.973 | 0.852 | 4.47% | 0.2631 |
| | 2050 2051 | 9,734,896 8,204,526 | 300,743,924 285.525.304 | 3089.3% 3480.1% | 94,914 91.821 | 2,451,748 1,977,820 | 75,742,805 68.830.011 | 3089.3% 3480.1% | 1.4356 1.4356 | N/A N/A | 0.0296 | N/A N/A | 0.970 | 0.847 | 4.47% 4.47% | 0.2519 0.2411 |
| | 2051 | 6,877,171 | 269,497,216 | 3480.1% | 88,307 | 1,586,835 | 62,183,654 | 3480.1% | 1.4356 | N/A N/A | 0.0326 | N/A N/A | 0.967 | 0.843 | 4.47% | 0.2411 |
| | 2053 | 5,732,558 | 252,857,020 | 4410.9% | 84,247 | 1,266,074 | 55,845,178 | 4410.9% | 1.4356 | N/A | 0.0460 | N/A | 0.954 | 0.834 | 4.47% | 0.2209 |
| | 2054 2055 | 4,752,635 3,919,684 | 235,883,695 218.833.970 | 4963.2% 5582.9% | 80,209 76,200 | 1,004,694 793,120 | 49,865,170 44,279,513 | 4963.2% 5582.9% | 1.4356 1.4356 | N/A N/A | 0.0479 0.0500 | N/A N/A | 0.952 0.950 | 0.829 0.825 | 4.47% 4.47% | 0.2114 0.2023 |
| | 2056 | 3,215,464 | 201,847,084 | 6277.4% | 72,062 | 622,760 | 39,093,027 | 6277.4% | 1.4356 | N/A | 0.0543 | N/A | 0.946 | 0.820 | 4.47% | 0.1937 |
| | 2057 2058 | 2,623,337 2.128,280 | 185,015,637 168,606,622 | 7052.7% 7922.2% | 66,630 61,561 | 486,317 377,644 | 34,298,408 29,917,746 | 7052.7% 7922.2% | 1.4356 1.4356 | N/A N/A | 0.0754 0.0761 | N/A N/A | 0.925 0.924 | 0.816 0.811 | 4.47% 4.47% | 0.1854 0.1774 |
| | 2058 | 1,717,112 | 152,842,925 | 7922.2% 8901.2% | 56,766 | 291,636 | 25,959,020 | 7922.2% 8901.2% | 1.4356 | N/A N/A | 0.0779 | N/A N/A | 0.924 | 0.811 | 4.47% | 0.1774 |
| | 2060 | 1,377,916 | 137,805,825 | 10001.0% | 52,170 | 224,003 | 22,402,643 | 10001.0% | 1.4356 | N/A | 0.0810 | N/A | 0.919 | 0.802 | 4.47% | 0.1626 |
| | 2061 2062 | 1,099,641 872 938 | 123,525,247 110,089,658 | 11233.2% 12611.4% | 47,696 43,254 | 171,108 130,015 | 19,221,006 16,396,669 | 11233.2% 12611.4% | 1.4356 1.4356 | N/A N/A | 0.0857 0.0931 | N/A N/A | 0.914 0.907 | 0.798 0.794 | 4.47% 4.47% | 0.1556 0.1489 |
| | 2063 | 689,126 | 97,580,568 | 14160.0% | 39,077 | 98,242 | 13,911,090 | 14160.0% | 1.4356 | N/A | 0.0966 | N/A | 0.903 | 0.789 | 4.47% | 0.1426 |
| | 2064 | 540,948 | 85,995,479 | 15897.2% | 35,032 | 73,815 | 11,734,434 | 15897.2% | 1.4356 | N/A | 0.1035 | N/A | 0.896 | 0.785 | 4.47% | 0.1365 |
| | 2065 2066 | 422,385 328.094 | 75,350,479 65,630,204 | 17839.3% 20003.5% | 31,108 27.512 | 55,168 41.017 | 9,841,499 8,204,795 | 17839.3% 20003.5% | 1.4356 1.4356 | N/A N/A | 0.1120 0.1156 | N/A N/A | 0.888 | 0.781 0.777 | 4.47% 4.47% | 0.1306 0.1250 |
| | 2067 | 253,514 | 56,850,900 | 22425.2% | 24,103 | 30,336 | 6,802,836 | 22425.2% | 1.4356 | N/A | 0.1239 | N/A | 0.876 | 0.773 | 4.47% | 0.1197 |
| | 2068 2069 | 194,858 149,008 | 48,942,370 41,887,512 | 25117.0% 28110.9% | 20,895 18,071 | 22,318 16,336 | 5,605,655 4,592,135 | 25117.0% 28110.9% | 1.4356 1.4356 | N/A N/A | 0.1331 0.1351 | N/A N/A | 0.867 0.865 | 0.769 0.765 | 4.47% 4.47% | 0.1145 0.1096 |
| | 2069 | 392,003 | 166,518,074 | 42478.8% | 15,433 | 41,135 | 4,592,135 17,473,512 | 42478.8% | 1.4356 | N/A N/A | 0.1351 | N/A N/A | 0.855 | 0.765 N/A | 4.47% | 0.1096 |
| | Past | 2 820 611 603 | 773 873 589 | 27.4% | 3 864 233 | 4.426.924.751 | 1 209 235 689 | 27.3% | | | | | | | | |
| | Past Future | 2,820,611,603 | 11,540,310,430 | 446.4% | 3,864,233 4,984,024 | 4,426,924,751 1,740,518,547 | 1,209,235,689 4,509,306,402 | 27.3% 259.1% | | | | | | | | |
| | Lifetime | 5,405,767,355 | 12,314,184,019 | 227.8% | 8,848,257 | 6,167,443,298 | 5,718,542,091 | 92.7% | | | | | | | | |

Lifetime 5.405,/19/390 16-01-1000-1000
Note:

- The premiums shown in this exhibit are normalized to reflect prior rate inreases authorized by Pennsylvania rather than that authorized by other states.
- The projections are based on the assumptions derived using experience data through 6/30/2018.

Attachment 9-A Metropolitan Life insurance Company Nationwide Experience Projections (Premium Normalized to Include Prior Authorized Increases) and With 6.82% Future Increase

| | | | | Loes D | atio Demonst | ration | | | Easts | ore Darivad for | om Projected Value | e for Illustrat | ive Burness (| Only | Interset De | te Factors |
|------------|--------------------|----------------------------|----------------------------|----------------------|--------------------|----------------------------|----------------------------|----------------------|-------------------------|----------------------|-----------------------------|-----------------------|-----------------------|------------------------|-----------------------|------------------------|
| | | | Vithout Interest | LOSS R | atio Demonst | | With Interest | | Premium | ors Derived fro | | Persistency | | | Calendar Year | Mid-Year |
| | Calendar Year | Earned Premium | Paid Claims | Loss Ratio | Life Years | Earned Premium | Paid Claims | Loss Ratio | Rate Increase Factor | Benefit Downgrade | Policy Lapse & Mortality | Policy Shock Lapse | Policy Persistency | Premium Persistency | Effective Int Rate | Disc / Accum Factor |
| | 1989 | 73,088 | | 0.0% | 649 | 265,877 | | 0.0% | Factor | Downgrade | Lapse & Mortality | SHOCK Lapse | reisistericy | reisistericy | 4.47% | 3.6378 |
| | 1990 1991 | 3,257,050 8,385,510 | 98,323 142,014 | 3.0% | 9,365 27,399 | 11,340,863 27,947,297 | 342,354 473,305 | 3.0% 1.7% | | | | | | | 4.47% 4.47% | 3.4819 |
| | 1991 | 13.462.425 | 1,315,222 | 9.8% | 34.519 | 42.945.965 | 4,195,638 | 9.8% | | | | | | | 4.47% | 3.3328 |
| | 1993 | 24,542,532 | 1,901,925 | 7.7% | 57,383 | 74,938,870 | 5,807,393 | 7.7% | | | | | | | 4.47% | 3.0534 |
| | 1994 1995 | 29,207,461 32.821.623 | 2,508,403 3,484,114 | 8.6% 10.6% | 59,284 63,893 | 85,363,121 91,817,454 | 7,331,179 9,746,699 | 8.6% 10.6% | | | | | | | 4.47% 4.47% | 2.9226 2.7975 |
| | 1996 | 36,225,167 | 6,221,356 | 17.2% | 76,547 | 96,998,343 | 16,658,619 | 17.2% | | | | | | | 4.47% | 2.6777 |
| | 1997 1998 | 41,731,413 43,940,449 | 3,361,627 | 8.1% 16.8% | 78,740 82.595 | 106,956,139 107,794,308 | 8,615,732 18,155,238 | 8.1% 16.8% | | | | | | | 4.47% 4.47% | 2.5630 2.4532 |
| | 1998 | 43,940,449 | 7,400,663 19,903,012 | 41.4% | 95 693 | 107,794,308 | 18,155,238 46,734,635 | 41.4% | | | | | | | 4.47% | 2.4532 |
| | 2000 | 55,598,283 | 15,341,470 | 27.6% | 111,642 | 124,959,751 | 34,480,673 | 27.6% | | | | | | | 4.47% | 2.2475 |
| Historical | 2001 2002 | 66,614,492 76,962,588 | 23,296,986 25.824.880 | 35.0% 33.6% | 138,474 154.041 | 143,306,604 158,476,862 | 50,118,403 53,177,083 | 35.0% 33.6% | | | | | | | 4.47% 4.47% | 2.1513 2.0591 |
| Experience | 2002 | 84,734,429 | 27,262,857 | 32.2% | 161,514 | 167,007,058 | 53,733,643 | 32.2% | | | | | | | 4.47% | 1.9709 |
| | 2004 2005 | 93,549,570 106,389,491 | 29,011,708 33.953.523 | 31.0% 31.9% | 177,688 193.671 | 176,484,037 192,110,489 | 54,731,448 61.310.830 | 31.0% 31.9% | | | | | | | 4.47% 4.47% | 1.8865 1.8057 |
| | 2005 | 121,561,825 | 35,342,958 | 29.1% | 207,903 | 210,105,912 | 61,086,319 | 29.1% | | | | | | | 4.47% | 1.7284 |
| | 2007 | 132,858,561 | 45,028,895 | 33.9% | 211,594 | 219,795,765 | 74,493,961 | 33.9% | | | | | | | 4.47% | 1.6544 |
| | 2008 2009 | 138,403,077 141,341,445 | 51,819,969 48,299,312 | 37.4% 34.2% | 211,070 199,029 | 219,161,487 214,228,247 | 82,057,002 73,206,249 | 37.4% 34.2% | | | | | | | 4.47% 4.47% | 1.5835 1.5157 |
| | 2010 | 141,989,562 | 46,028,904 | 32.4% | 193,053 | 205,992,943 | 66,776,946 | 32.4% | | | | | | | 4.47% | 1.4508 |
| | 2011 | 142,889,041 | 50,689,248 | 35.5% | 187,553 | 198,419,139 | 70,388,302 71,967,095 | 35.5% | | | | | | | 4.47% | 1.3886 |
| | 2012 2013 | 142,013,255 162,863,192 | 54,145,282 53.843.020 | 38.1% 33.1% | 178,477 170.629 | 188,756,638 207,197,738 | 68.500.143 | 38.1% 33.1% | | | | | | | 4.47% 4.47% | 1.3291 |
| | 2014 | 189,092,342 | 51,316,061 | 27.1% | 165,636 | 230,263,300 | 62,489,075 | 27.1% | | | | | | | 4.47% | 1.2177 |
| | 2015 2016 | 187,270,622 187,556,911 | 56,233,400 41,767,092 | 30.0% 22.3% | 160,865 156 155 | 218,277,590 209,247,985 | 65,544,136 46,597,482 | 30.0% 22.3% | | | | | | | 4.47% 4.47% | 1.1656 |
| | 2017 | 186,345,406 | 29,221,373 | 15.7% | 151,817 | 198,992,000 | 31,204,523 | 15.7% | | | | | | | 4.47% | 1.1157 |
| Projected | 2018 | 180,833,741 179,854,405 | 9,109,991 24,293,532 | 5.0% 13.5% | 147,355 145.563 | 184,835,382 175,960,601 | 9,311,585 23,767,583 | 5.0% 13.5% | 1,4356 | 1.00000 | 0.0122 | 1.0000 | 0.988 | 0.995 | 4.47% 4.47% | 1.0221 0.9784 |
| Future | 2019 2020 | 179,854,405 | 57,471,121 | 32.7% | 143,504 | 164,756,754 | 53,818,643 | 32.7% | 1.4683 | 1.00000 | 0.0122 | 0.9970 | 0.988 | 0.959 | 4.47% | 0.9364 |
| Experience | 2021 | 175,488,901 | 86,416,601 | 49.2% | 140,772 | 157,297,363 | 77,458,479 | 49.2% | 1.5335 | 1.00000 | 0.0190 | 0.9940 | 0.981 | 0.958 | 4.47% | 0.8963 |
| | 2022 2023 | 167,297,162 159,637,336 | 112,273,948 135,950,538 | 67.1% 85.2% | 138,972 137,689 | 143,532,113 131,094,264 | 96,325,106 111,642,653 | 67.1% 85.2% | 1.5335 1.5335 | 1.00000 | 0.0128 0.0092 | 0.9910 0.9910 | 0.987 0.991 | 0.956 0.954 | 4.47% 4.47% | 0.8579 0.8212 |
| | 2024 | 151,942,395 | 156,364,147 | 102.9% | 136,455 | 119,430,954 | 122,906,574 | 102.9% | 1.5335 | 1.00000 | 0.0090 | 0.9910 | 0.991 | 0.952 | 4.47% | 0.7860 |
| | 2025 | 144,211,678 136,508,346 | 175,333,930 192.098.529 | 121.6% 140.7% | 135,266 | 108,499,336 | 131,914,524 | 121.6% 140.7% | 1.5335 | 1.00000 | 0.0087 | 0.9910 | 0.991 0.991 | 0.949 0.947 | 4.47% 4.47% | 0.7524 |
| | 2026 2027 | 136,508,346 | 207.064.458 | 160.8% | 134,103 132,967 | 98,304,765 88,770,813 | 138,337,334 142,728,151 | 160.8% | 1.5335 1.5335 | 1.00000 | 0.0086 0.0085 | 0.9910 | 0.991 | 0.947 | 4.47% | 0.7201 0.6893 |
| | 2028 | 121,096,040 | 221,779,552 | 183.1% | 131,855 | 79,895,576 | 146,323,572 | 183.1% | 1.5335 | 1.00000 | 0.0084 | 0.9910 | 0.992 | 0.940 | 4.47% | 0.6598 |
| | 2029 | 113,549,666 106,087,794 | 236,617,082 251,215,982 | 208.4% | 130,762 129,666 | 71,707,960 64,126,220 | 149,426,492 151.850.941 | 208.4% | 1.5335 1.5335 | 1.00000 | 0.0083 | 0.9910 | 0.992 | 0.938 | 4.47% 4.47% | 0.6315 |
| | 2031 | 98,744,357 | 265,532,780 | 268.9% | 128,591 | 57,130,921 | 153,630,372 | 268.9% | 1.5335 | 1.00000 | 0.0083 | 0.9910 | 0.992 | 0.931 | 4.47% | 0.5786 |
| | 2032 | 91,569,924 84,554,521 | 279,685,419 293,515,052 | 305.4% 347.1% | 127,476 126,359 | 50,710,805 44,820,139 | 154,887,895 155,584,649 | 305.4% 347.1% | 1.5335 1.5335 | 1.00000 | 0.0087 | 0.9910 | 0.991 | 0.927 | 4.47% 4.47% | 0.5538 0.5301 |
| | 2033 | 77,720,585 | 306,814,986 | 394.8% | 125,359 | 39,433,120 | 155,668,826 | 347.1% | 1.5335 | 1.00000 | 0.0088 | 0.9910 | 0.991 | 0.923 | 4.47% | 0.5074 |
| | 2035 | 71,131,998 | 319,311,853 | 448.9% | 123,961 | 34,544,492 | 155,070,375 | 448.9% | 1.5335 | 1.00000 | 0.0099 | 0.9910 | 0.990 | 0.915 | 4.47% | 0.4856 |
| | 2036 2037 | 64,781,918 58.695.266 | 330,740,450 340.855,719 | 510.5% 580.7% | 122,687 121.303 | 30,113,159 26,115,257 | 153,741,044 151,656,774 | 510.5% 580.7% | 1.5335 1.5335 | 1.00000 | 0.0103 0.0113 | 0.9910 0.9910 | 0.990 | 0.911 0.906 | 4.47% 4.47% | 0.4648 0.4449 |
| | 2038 | 52,948,233 | 349,501,724 | 660.1% | 119,852 | 22,549,214 | 148,843,292 | 660.1% | 1.5335 | 1.00000 | 0.0120 | 0.9910 | 0.988 | 0.902 | 4.47% | 0.4259 |
| | 2039 2040 | 47,527,280 42,450,259 | 356,419,951 361,350,728 | 749.9% 851.2% | 118,316 116,573 | 19,373,658 16,562,951 | 145,288,308 140,989,350 | 749.9% 851.2% | 1.5335 1.5335 | 1.00000 | 0.0128 0.0147 | 0.9910 0.9910 | 0.987 0.985 | 0.898 0.893 | 4.47% 4.47% | 0.4076 0.3902 |
| | 2041 | 37,726,198 | 364,151,645 | 965.2% | 114,771 | 14,089,291 | 135,996,698 | 965.2% | 1.5335 | 1.00000 | 0.0155 | 0.9910 | 0.985 | 0.889 | 4.47% | 0.3735 |
| | 2042 | 33,356,826 | 364,773,964 | 1093.6% | 112,854 | 11,923,933 | 130,394,309 | 1093.6% | 1.5335 | 1.00000 | 0.0167 | 0.9910 | 0.983 | 0.884 | 4.47% | 0.3575 |
| | 2043 2044 | 29,341,343 25.675.132 | 363,209,500 359,483,272 | 1237.9% 1400.1% | 110,819 108.803 | 10,039,302 8,408,624 | 124,274,126 117,731,024 | 1237.9% 1400.1% | 1.5335 1.5335 | 1.00000 | 0.0180 0.0182 | 0.9910 0.9910 | 0.982 0.982 | 0.880 0.875 | 4.47% 4.47% | 0.3422 0.3275 |
| | 2045 | 22,349,260 | 353,666,545 | 1582.5% | 106,647 | 7,005,903 | 110,865,119 | 1582.5% | 1.5335 | 1.00000 | 0.0198 | 0.9910 | 0.980 | 0.870 | 4.47% | 0.3135 |
| | 2046 2047 | 19,351,554 16.666.321 | 345,866,058 336,223,534 | 1787.3% 2017.4% | 104,412 102,117 | 5,806,381 4,786,501 | 103,776,163 96.562.052 | 1787.3% 2017.4% | 1.5335 1.5335 | 1.00000 | 0.0210 0.0220 | 0.9910 | 0.979 0.978 | 0.866 0.861 | 4.47% 4.47% | 0.3000 0.2872 |
| | 2048 | 14,275,804 | 324,899,000 | 2275.9% | 99,591 | 3,924,349 | 89,313,163 | 2275.9% | 1.5335 | 1.00000 | 0.0247 | 0.9910 | 0.975 | 0.857 | 4.47% | 0.2749 |
| | 2049 2050 | 12,161,688 10,305,226 | 312,098,111 298,037,229 | 2566.2% 2892.1% | 96,933 94,059 | 3,199,998 2,595,387 | 82,119,623 75,061,120 | 2566.2% 2892.1% | 1.5335 1.5335 | 1.00000 | 0.0267 | 0.9910 | 0.973 | 0.852 0.847 | 4.47% 4.47% | 0.2631 0.2519 |
| | 2051 | 8,685,198 | 282,955,577 | 3257.9% | 94,059 | 2,093,693 | 68,210,541 | 3257.9% | 1.5335 | 1.00000 | 0.0326 | 0.9910 | 0.967 | 0.843 | 4.47% | 0.2411 |
| | 2052 | 7,280,078 | 267,071,741 | 3668.5% | 87,512 | 1,679,802 | 61,624,001 | 3668.5% | 1.5335 | 1.00000 | 0.0383 | 0.9910 | 0.962 | 0.838 | 4.47% | 0.2307 |
| | 2053 2054 | 6,068,406 5.031.073 | 250,581,306 233,760,742 | 4129.3% 4646.3% | 83,489 79,488 | 1,340,248 1.063.555 | 55,342,572 49,416,384 | 4129.3% 4646.3% | 1.5335 1.5335 | 1.00000 | 0.0460 0.0479 | 0.9910 | 0.954 0.952 | 0.834 0.829 | 4.47% 4.47% | 0.2209 0.2114 |
| | 2055 | 4,149,324 | 216,864,464 | 5226.5% | 75,514 | 839,586 | 43,880,998 | 5226.5% | 1.5335 | 1.00000 | 0.0500 | 0.9910 | 0.950 | 0.825 | 4.47% | 0.2023 |
| | 2056 2057 | 3,403,846 2,777,028 | 200,030,460 183,350,497 | 5876.6% 6602.4% | 71,413 66,030 | 659,245 514,809 | 38,741,189 33,989,723 | 5876.6% 6602.4% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0543 0.0754 | 0.9910 0.9910 | 0.946 0.925 | 0.820 0.816 | 4.47% 4.47% | 0.1937 0.1854 |
| | 2057 | 2,777,028 | 167,089,162 | 7416.4% | 61,007 | 399,769 | 29,648,486 | 7416.4% | 1.5335 | 1.00000 | 0.0761 | 0.9910 | 0.925 | 0.816 | 4.47% | 0.1854 |
| | 2059 | 1,817,711 | 151,467,339 | 8332.9% | 56,256 | 308,722 | 25,725,389 | 8332.9% | 1.5335 | 1.00000 | 0.0779 | 0.9910 | 0.922 | 0.807 | 4.47% | 0.1698 |
| | 2060 2061 | 1,458,643 | 136,565,573 122,413,519 | 9362.5% 10516.0% | 51,700 47,267 | 237,127 181.133 | 22,201,019 19.048.017 | 9362.5% 10516.0% | 1.5335 1.5335 | 1.00000 | 0.0810 0.0857 | 0.9910 | 0.919 0.914 | 0.802 0.798 | 4.47% 4.47% | 0.1626 0.1556 |
| | 2062 | 924,080 | 109,098,852 | 11806.2% | 42,865 | 137,632 | 16,249,099 | 11806.2% | 1.5335 | 1.00000 | 0.0931 | 0.9910 | 0.907 | 0.794 | 4.47% | 0.1489 |
| | 2063 2064 | 729,499 572,641 | 96,702,343 85,221,519 | 13256.0% 14882.2% | 38,725 34,717 | 103,997 78.139 | 13,785,890 11.628.824 | 13256.0% 14882.2% | 1.5335 1.5335 | 1.00000 | 0.0966 0.1035 | 0.9910 | 0.903 | 0.789 0.785 | 4.47% 4.47% | 0.1426 0.1365 |
| | 2064 | 447,131 | 74,672,325 | 16700.3% | 30,828 | 58,400 | 9,752,926 | 16700.3% | 1.5335 | 1.00000 | 0.1035 | 0.9910 | 0.896 | 0.785 | 4.47% | 0.1365 |
| | 2066 | 347,316 | 65,039,532 | 18726.3% | 27,265 | 43,420 | 8,130,952 | 18726.3% | 1.5335 | 1.00000 | 0.1156 | 0.9910 | 0.884 | 0.777 | 4.47% | 0.1250 |
| | 2067 2068 | 268,366 206,274 | 56,339,242 48.501.889 | 20993.4% 23513.4% | 23,886 20.707 | 32,113 23.626 | 6,741,611 5.555,204 | 20993.4% 23513.4% | 1.5335 1.5335 | 1.00000 | 0.1239 0.1331 | 0.9910 0.9910 | 0.876 0.867 | 0.773 0.769 | 4.47% 4.47% | 0.1197 0.1145 |
| | 2069 | 157,738 | 41,510,524 | 26316.2% | 17,909 | 17,293 | 4,550,806 | 26316.2% | 1.5335 | 1.00000 | 0.1351 | 0.9910 | 0.865 | 0.765 | 4.47% | 0.1096 |
| | 2070+ | 414,969 | 165,019,411 | 39766.7% | 15,294 | 43,545 | 17,316,250 | 39766.7% | 1.5335 | 1.00000 | 0.1460 | 0.9910 | 0.854 | N/A | 4.47% | 0.1049 |
| | Past | 2,820,611,603 | 773,873,589 | 27.4% | 3,864,233 | 4,426,924,751 | 1,209,235,689 | 27.3% | | | | | | | | |
| | Future Lifetime | 2,719,887,224 | 11,437,272,957 | 420.5% | 4,941,767 | 1,826,365,954 | 4,469,494,214 | 244.7% | | | | | | | | |
| <u> </u> | LITEUM | 5,540,498,827 | 12,211,146,546 | 220.4% | 8,806,000 | 6,253,290,705 | 5,678,729,903 | 90.8% | | | | | | | | |

Lifetime 5.540,498.827 12.211,146.546 220.4% 8.806,000 6.253.290.705 5.678.729.903 90.8% Nate:

- The premiums shown in this exhibit are normalized to reflect prior rate increases authorized by Pennsylvania rather than that authorized by other states.
- The projections are based on the assumptions derived using experience data through 6/30/2018.

Attachment 9-B Metropolitan Life Insurance Company Pennsylvania Experience Projections (Premium Include Prior Authorized Increases)

| | | | | Loss Ra | atio Demonst | ration | | | Facto | ors Derived fro | om Projected Values for | r Illustrati | ive Purposes C | inly | Interest Ra | te Factors |
|--------------------------|----------------|----------------------------|---------------------------|----------------------|--------------------|---------------------------|---------------------------|----------------------|--------------------------|-----------------|-------------------------|--------------|----------------|----------------|----------------------------|--------------------------|
| | Calendar | Wi Earned | ithout Interest Paid | Loss | Life | Earned | With Interest Paid | Loss | Premium Rate Increase | Benefit | Pe | rsistency I | | Premium | Calendar Year Effective | Mid-Year Disc / Accum |
| | Year 1989 | Premium | Claims | Ratio N/A | Years | Premium | Claims | Ratio N/A | Factor | Downgrade | Lapse & Mortality Sho | ck Lapse | Persistency | Persistency | Int Rate 4 47% | Factor 3.6378 |
| | 1990 | - | | N/A | - | | - | N/A | | | | | | | 4.47% | 3.4819 |
| | 1991 1992 | - | - | N/A N/A | - : | - | - | N/A N/A | | | | | | | 4.47% 4.47% | 3.3328 3.1901 |
| | 1993 1994 | - | - | N/A | - | - | - | N/A | | | | | | | 4.47% 4.47% | 3.0534 2.9226 |
| | 1994 | | | N/A N/A | | | | N/A N/A | | | | | | | 4.47% | 2.9226 |
| | 1996 1997 | | | N/A N/A | - | - | | N/A N/A | | | | | | | 4.47% 4.47% | 2.6777 2.5630 |
| | 1998 | | | N/A | - | | | N/A | | | | | | | 4.47% | 2.4532 |
| | 1999 2000 | 71,094 467,489 | 1.025 | 0.0% | 324 1.468 | 166,936 1.050.703 | 2.304 | 0.0% | | | | | | | 4.47% 4.47% | 2.3481 2.2475 |
| | 2001 | 833,510 | 408,469 | 49.0% | 1,825 | 1,793,116 | 878,733 | 49.0% | | | | | | | 4.47% | 2.1513 |
| Historical Experience | 2002 2003 | 1,010,600 1,727,834 | 33,979 2,902 | 3.4% 0.2% | 2,811 4,005 | 2,080,968 3,405,469 | 69,968 5,719 | 3.4% 0.2% | | | | | | | 4.47% 4.47% | 2.0591 1.9709 |
| | 2004 2005 | 2,659,254 5,407,385 | 413,895 1.025.526 | 15.6% 19.0% | 5,075 7,965 | 5,016,761 9,764,266 | 780,825 1.851.821 | 15.6% 19.0% | | | | | | | 4.47% 4.47% | 1.8865 1.8057 |
| | 2005 | 8,054,419 | 1,721,859 | 21.4% | 8,115 | 13,921,156 | 2,976,039 | 21.4% | | | | | | | 4.47% | 1.7284 |
| | 2007 2008 | 8,002,695 8,468,091 | 2,737,692 1,872,343 | 34.2% 22.1% | 8,046 8,660 | 13,239,330 13,409,236 | 4,529,126 2,964,859 | 34.2% 22.1% | | | | | | | 4.47% 4.47% | 1.6544 1.5835 |
| | 2009 | 8,649,057 | 4,714,177 | 54.5% | 8,358 | 13,109,193 | 7,145,178 | 54.5% | | | | | | | 4.47% | 1.5157 |
| | 2010 | 8,397,807 8,220,240 | 1,169,764 1,801,122 | 13.9% 21.9% | 8,236 7,927 | 12,183,213 11,414,822 | 1,697,048 2,501,081 | 13.9% 21.9% | | | | | | | 4.47% 4.47% | 1.4508 1.3886 |
| | 2012 | 7,831,661 | 2,558,397 | 32.7% | 7,502 | 10,409,437 | 3,400,489 | 32.7% | | | | | | | 4.47% | 1.3291 |
| | 2013 2014 | 8,670,849 9,869,254 | 2,354,141 2,352,917 | 27.2% 23.8% | 7,032 6,822 | 11,031,224 12,018,081 | 2,994,984 2,865,216 | 27.2% 23.8% | | | | | | | 4.47% 4.47% | 1.2722 1.2177 |
| | 2015 | 9,562,284 | 1,489,056 | 15.6% | 6,668 | 11,145,540 | 1,735,603 | 15.6% | | | | | | | 4.47% 4.47% | 1.1656 |
| | 2016 2017 | 9,351,568 9,183,735 | 1,527,965 969,322 | 16.3% 10.6% | 6,482 6,366 | 10,433,083 9,807,002 | 1,704,675 1,035,107 | 16.3% 10.6% | | | | | | | 4.47% | 1.1157 1.0679 |
| Projected | 2018 2019 | 8,834,882 8,699,916 | 144,949 723.877 | 1.6% | 6,230 6,149 | 9,030,387 8,511,564 | 148,157 708.205 | 1.6% 8.3% | 1.4356 | N/A | 0.0131 | N/A | 0.987 | 0.985 | 4.47% 4.47% | 1.0221 0.9784 |
| Future | 2020 | 8,318,096 | 2,040,694 | 24.5% | 6,075 | 7,789,454 | 1,911,001 | 24.5% | 1.4356 | N/A | 0.0119 | N/A | 0.988 | 0.956 | 4.47% | 0.9364 |
| Experience | 2021 2022 | 7,940,325 7,560,271 | 3,194,049 4,239,169 | 40.2% 56.1% | 5,973 5,911 | 7,117,215 6,486,312 | 2,862,948 3,636,982 | 40.2% 56.1% | 1.4356 1.4356 | N/A N/A | 0.0169 0.0102 | N/A N/A | 0.983 0.990 | 0.955 0.952 | 4.47% 4.47% | 0.8963 0.8579 |
| | 2023 2024 | 7,184,617 6,809,792 | 5,202,317 | 72.4% 89.1% | 5,855 | 5,900,012 5,352,686 | 4,272,146 | 72.4% 89.1% | 1.4356 1.4356 | N/A N/A | 0.0096 | N/A N/A | 0.990 | 0.950 | 4.47% 4.47% | 0.8212 0.7860 |
| | 2024 | 6,809,792 6,434,126 | 6,070,439 6,889,135 | 89.1% 107.1% | 5,800 5,747 | 5,352,686 4,840,789 | 4,771,534 5,183,121 | 89.1% 107.1% | 1.4356 | N/A N/A | 0.0094 | N/A N/A | 0.991 | 0.948 | 4.47% | 0.7860 |
| | 2026 2027 | 6,064,942 5,703,221 | 7,614,784 8,274,901 | 125.6% 145.1% | 5,696 5,646 | 4,367,591 3,931,192 | 5,483,691 5,703,834 | 125.6% 145.1% | 1.4356 1.4356 | N/A N/A | 0.0089 0.0088 | N/A N/A | 0.991 0.991 | 0.943 0.940 | 4.47% 4.47% | 0.7201 0.6893 |
| | 2028 | 5,351,349 | 8,945,921 | 167.2% | 5,597 | 3,530,662 | 5,902,254 | 167.2% | 1.4356 | N/A | 0.0087 | N/A | 0.991 | 0.938 | 4.47% | 0.6598 |
| | 2029 2030 | 5,009,499 4.675.896 | 9,641,402 10,340,940 | 192.5% 221.2% | 5,549 5,499 | 3,163,558 2,826,409 | 6,088,660 6,250,723 | 192.5% 221.2% | 1.4356 1.4356 | N/A N/A | 0.0085 0.0090 | N/A N/A | 0.992 0.991 | 0.936 0.933 | 4.47% 4.47% | 0.6315 0.6045 |
| | 2031 | 4,350,735 | 11,046,549 | 253.9% | 5,452 | 2,517,222 | 6,391,246 | 253.9% | 1.4356 | N/A | 0.0086 | N/A | 0.991 | 0.930 | 4.47% | 0.5786 |
| | 2032 2033 | 4,034,431 3,727,094 | 11,771,134 12,506,222 | 291.8% 335.5% | 5,401 5,356 | 2,234,240 1,975,635 | 6,518,774 6,629,221 | 291.8% 335.5% | 1.4356 1.4356 | N/A N/A | 0.0094 0.0083 | N/A N/A | 0.991 0.992 | 0.927 0.924 | 4.47% 4.47% | 0.5538 0.5301 |
| | 2034 2035 | 3,429,604 3,142,201 | 13,239,062 13,959,056 | 386.0% 444.2% | 5,300 5,247 | 1,740,079 1,525,976 | 6,717,108 6,779,066 | 386.0% 444.2% | 1.4356 1.4356 | N/A N/A | 0.0104 0.0100 | N/A N/A | 0.990 0.990 | 0.920 0.916 | 4.47% 4.47% | 0.5074 0.4856 |
| | 2036 | 2,865,109 | 14,652,858 | 511.4% | 5,195 | 1,331,814 | 6,811,219 | 511.4% | 1.4356 | N/A | 0.0099 | N/A | 0.990 | 0.912 | 4.47% | 0.4648 |
| | 2037 2038 | 2,599,766 2,347,307 | 15,302,207 15,892,833 | 588.6% 677.1% | 5,142 5,086 | 1,156,713 999,654 | 6,808,404 6,768,326 | 588.6% 677.1% | 1.4356 1.4356 | N/A N/A | 0.0103 | N/A N/A | 0.990 | 0.907 | 4.47% 4.47% | 0.4449 |
| | 2039 | 2,108,382 | 16,409,005 | 778.3% | 5,028 | 859,445 | 6,688,842 | 778.3% | 1.4356 | N/A | 0.0113 | N/A | 0.989 | 0.898 | 4.47% | 0.4076 |
| | 2040 2041 | 1,883,918 1.674,421 | 16,833,138 17,150,188 | 893.5% 1024.2% | 4,967 4,905 | 735,054 625,332 | 6,567,838 6,404,939 | 893.5% 1024.2% | 1.4356 1.4356 | N/A N/A | 0.0121 0.0125 | N/A N/A | 0.988 0.987 | 0.894 0.889 | 4.47% 4.47% | 0.3902 0.3735 |
| | 2042 2043 | 1,480,171 1,301,194 | 17,353,480 17,439,371 | 1172.4% 1340.3% | 4,841 4,769 | 529,111 445,211 | 6,203,280 5,966,977 | 1172.4% 1340.3% | 1.4356 1.4356 | N/A N/A | 0.0130 0.0149 | N/A N/A | 0.987 0.985 | 0.884 0.879 | 4.47% 4.47% | 0.3575 0.3422 |
| | 2044 | 1,137,420 | 17,407,718 | 1530.5% | 4,702 | 372,506 | 5,701,040 | 1530.5% | 1.4356 | N/A | 0.0140 | N/A | 0.986 | 0.874 | 4.47% | 0.3275 |
| | 2045 2046 | 988,775 854,733 | 17,257,299 16,990,254 | 1745.3% 1987.8% | 4,628 4,559 | 309,955 256,460 | 5,409,707 5,097,879 | 1745.3% 1987.8% | 1.4356 1.4356 | N/A N/A | 0.0159 0.0149 | N/A N/A | 0.984 0.985 | 0.869 0.864 | 4.47% 4.47% | 0.3135 0.3000 |
| | 2047 | 734,726 | 16,606,568 | 2260.2% | 4,487 | 211,010 | 4,769,340 | 2260.2% | 1.4356 | N/A | 0.0158 | N/A | 0.984 | 0.860 | 4.47% | 0.2872 |
| | 2048 2049 | 628,120 533,968 | 16,113,662 15,528,500 | 2565.4% 2908.1% | 4,401 4,296 | 172,667 140,498 | 4,429,568 4,085,877 | 2565.4% 2908.1% | 1.4356 1.4356 | N/A N/A | 0.0191 0.0238 | N/A N/A | 0.981 0.976 | 0.855 0.850 | 4.47% 4.47% | 0.2749 0.2631 |
| | 2050 2051 | 451,426 379,516 | 14,862,297 14,127,699 | 3292.3% 3722.6% | 4,183 4.068 | 113,692 91,488 | 3,743,092 3,405,687 | 3292.3% 3722.6% | 1.4356 1.4356 | N/A N/A | 0.0265 0.0273 | N/A N/A | 0.973 0.973 | 0.845 | 4.47% 4.47% | 0.2519 0.2411 |
| | 2052 | 317,283 | 13,344,414 | 4205.8% | 3,939 | 73,210 | 3,079,083 | 4205.8% | 1.4356 | N/A | 0.0318 | N/A | 0.968 | 0.836 | 4.47% | 0.2307 |
| | 2053 2054 | 263,772 218.030 | 12,522,857 11.678.520 | 4747.6% 5356.4% | 3,798 3,649 | 58,256 46.091 | 2,765,757 2,468,807 | 4747.6% 5356.4% | 1.4356 1.4356 | N/A N/A | 0.0359 0.0393 | N/A N/A | 0.964 0.961 | 0.831 0.827 | 4.47% 4.47% | 0.2209 0.2114 |
| | 2055 | 179,235 | 10,824,071 | 6039.0% | 3,502 | 36,267 | 2,190,175 | 6039.0% | 1.4356 | N/A | 0.0402 | N/A | 0.960 | 0.822 | 4.47% | 0.2023 |
| | 2056 2057 | 146,523 119,099 | 9,968,274 9,117,435 | 6803.2% 7655.4% | 3,323 3,099 | 28,378 22,079 | 1,930,620 1,690,200 | 6803.2% 7655.4% | 1.4356 1.4356 | N/A N/A | 0.0511 0.0672 | N/A N/A | 0.949 0.933 | 0.817 0.813 | 4.47% 4.47% | 0.1937 0.1854 |
| | 2058 | 96,221 | 8,285,547 | 8610.9% | 2,844 | 17,074 | 1,470,197 | 8610.9% | 1.4356 | N/A | 0.0825 | N/A | 0.918 | 0.808 | 4.47% | 0.1774 |
| | 2059 2060 | 77,244 61,651 | 7,477,263 6,705,752 | 9680.0% 10877.0% | 2,611 2,398 | 13,119 10,022 | 1,269,947 1,090,132 | 9680.0% 10877.0% | 1.4356 1.4356 | N/A N/A | 0.0818 0.0817 | N/A N/A | 0.918 0.918 | 0.803 0.798 | 4.47% 4.47% | 0.1698 0.1626 |
| | 2061 2062 | 48,879 38,555 | 5,974,522 5,288,904 | 12223.2% 13718.0% | 2,183 1,976 | 7,606 5,742 | 929,659 787,725 | 12223.2% 13718.0% | 1.4356 1.4356 | N/A N/A | 0.0896 0.0949 | N/A N/A | 0.910 0.905 | 0.793 0.789 | 4.47% 4.47% | 0.1556 0.1489 |
| | 2063 | 30,217 | 4,649,082 | 15385.9% | 1,764 | 4,308 | 662,773 | 15385.9% | 1.4356 | N/A | 0.1073 | N/A | 0.893 | 0.784 | 4.47% | 0.1426 |
| | 2064 2065 | 23,528 18,198 | 4,057,823 3,516,075 | 17246.4% 19321.5% | 1,564 1,362 | 3,211 2,377 | 553,706 459,233 | 17246.4% 19321.5% | 1.4356 1.4356 | N/A N/A | 0.1132 0.1296 | N/A N/A | 0.887 0.870 | 0.779 0.773 | 4.47% 4.47% | 0.1365 0.1306 |
| | 2066 | 13,988 | 3,024,085 | 21618.7% | 1,193 | 1,749 | 378,058 | 21618.7% | 1.4356 | N/A | 0.1235 | N/A | 0.876 | 0.769 | 4.47% | 0.1250 |
| | 2067 2068 | 10,677 8,093 | 2,589,482 2,192,020 | 24252.1% 27084.6% | 1,053 901 | 1,278 927 | 309,860 251,065 | 24252.1% 27084.6% | 1.4356 1.4356 | N/A N/A | 0.1180 0.1438 | N/A N/A | 0.882 0.856 | 0.763 0.758 | 4.47% 4.47% | 0.1197 0.1145 |
| | 2069 2070+ | 6,086 14,712 | 1,855,818 6,954,896 | 30493.5% 47274.6% | 781 678 | 667 1.544 | 203,454 729,809 | 30493.5% 47274.6% | 1.4356 1.4356 | N/A N/A | 0.1334 0.1324 | N/A N/A | 0.867 0.868 | 0.752 N/A | 4.47% 4.47% | 0.1096 0.1049 |
| | | <i>'</i> | .,, | | 0.0 | ,, | | | 1.4300 | IN/A | 0.1324 | IN/A | 0.008 | N/A | 4.47% | 0.1049 |
| | Past Future | 125,273,708 122,097,058 | 27,299,501 525.653.568 | 21.8% 430.5% | 119,917 214,125 | 174,429,924 82,495,112 | 39,286,932 197,892,789 | 22.5% 239.9% | | | | | | | | |
| Note: | Lifetime | 247,370,766 | 552,953,069 | 223.5% | 334,042 | 256,925,036 | 237,179,720 | 92.3% | | | | | | | | |

Note:
- The projections are based on the assumptions derived using experience data through 670/2018.

Attachment 9-B Metropolitan Life Insurance Company Pennsylvania Experience Projections (Pennium include Prior Authorized Increases) and With 6.83% Future Increase

| | | | | Lnee D | atio Demonst | ration | | | Fact | ors Derived fr | om Projected Value | es for Illustrat | ive Purnosce | Only | Interest Ra | te Factors |
|--------------------------|------------------|----------------------------|---------------------------|----------------------|--------------------|---------------------------|---------------------------|----------------------|-------------------------|----------------------|-----------------------------|-----------------------|-----------------------|------------------------|-----------------------|------------------------|
| | | | ithout Interest | | | | With Interest | | Premium | | | Persistency | Factors | | Calendar Year | Mid-Year |
| | Calendar Year | Earned Premium | Paid Claims | Loss Ratio | Life Years | Earned Premium | Paid Claims | Loss Ratio | Rate Increase Factor | Benefit Downgrade | Policy Lapse & Mortality | Policy Shock Lapse | Policy Persistency | Premium Persistency | Effective Int Rate | Disc / Accum Factor |
| | 1989 | - | - | N/A | | - | - | N/A | | | | | | | 4.47% | 3.6378 |
| | 1990 1991 | | | N/A N/A | | | - : | N/A N/A | | | | | | | 4.47% 4.47% | 3.4819 3.3328 |
| | 1992 | | | N/A | - | - | | N/A | | | | | | | 4.47% | 3.1901 |
| | 1993 1994 | | : | N/A N/A | | | | N/A N/A | | | | | | | 4.47% 4.47% | 3.0534 2.9226 |
| | 1995 | | | N/A | - | - | | N/A | | | | | | | 4.47% | 2.7975 |
| | 1996 1997 | | | N/A N/A | | | | N/A N/A | | | | | | | 4.47% 4.47% | 2.6777 2.5630 |
| | 1998 | | | N/A | | | | N/A | | | | | | | 4.47% | 2.4532 |
| | 1999 2000 | 71,094 467,489 | 1,025 | 0.0% | 324 1,468 | 166,936 1,050,703 | 2,304 | 0.0% | | | | | | | 4.47% 4.47% | 2.3481 2.2475 |
| | 2000 | 833,510 | 408,469 | 49.0% | 1,825 | 1,793,116 | 878,733 | 49.0% | | | | | | | 4.47% | 2.1513 |
| Historical Experience | 2002 | 1,010,600 1,727,834 | 33,979 2.902 | 3.4% 0.2% | 2,811 4,005 | 2,080,968 3,405,469 | 69,968 5,719 | 3.4% 0.2% | | | | | | | 4.47% 4.47% | 2.0591 1.9709 |
| Experience | 2003 | 2,659,254 | 413,895 | 15.6% | 5,075 | 5,016,761 | 780,825 | 15.6% | | | | | | | 4.47% | 1.8865 |
| | 2005 2006 | 5,407,385 8.054.419 | 1,025,526 1,721,859 | 19.0% 21.4% | 7,965 8,115 | 9,764,266 13,921,156 | 1,851,821 2,976,039 | 19.0% 21.4% | | | | | | | 4.47% 4.47% | 1.8057 1.7284 |
| | 2006 | 8,054,419 | 2,737,692 | 34.2% | 8,115 | 13,921,156 | 4,529,126 | 34.2% | | | | | | | 4.47% | 1.7284 |
| | 2008 | 8,468,091 | 1,872,343 | 22.1% | 8,660 | 13,409,236 | 2,964,859 | 22.1% | | | | | | | 4.47% | 1.5835 |
| | 2009 2010 | 8,649,057 8,397,807 | 4,714,177 1,169,764 | 54.5% 13.9% | 8,358 8,236 | 13,109,193 12,183,213 | 7,145,178 1,697,048 | 54.5% 13.9% | | | | | | | 4.47% 4.47% | 1.5157 1.4508 |
| | 2011 | 8,220,240 | 1,801,122 | 21.9% | 7,927 | 11,414,822 | 2,501,081 | 21.9% | | | | | | | 4.47% | 1.3886 |
| | 2012 | 7,831,661 8,670,849 | 2,558,397 2,354,141 | 32.7% 27.2% | 7,502 7.032 | 10,409,437 11.031.224 | 3,400,489 2,994,984 | 32.7% 27.2% | | | | | | | 4.47% 4.47% | 1.3291 |
| | 2014 | 9,869,254 | 2,352,917 | 23.8% | 6,822 | 12,018,081 | 2,865,216 | 23.8% | | | | | | | 4.47% | 1.2177 |
| | 2015 2016 | 9,562,284 9,351,568 | 1,489,056 1,527,965 | 15.6% 16.3% | 6,668 6.482 | 11,145,540 10,433,083 | 1,735,603 1,704,675 | 15.6% 16.3% | | | | | | | 4.47% 4.47% | 1.1656 |
| | 2017 | 9,183,735 | 969,322 | 10.6% | 6,366 | 9,807,002 | 1,035,107 | 10.6% | | | | | | | 4.47% | 1.0679 |
| Projected | 2018 2019 | 8,834,882 8,699,916 | 144,949 723.877 | 1.6% 8.3% | 6,230 6,149 | 9,030,387 8,511,564 | 148,157 708.205 | 1.6% | 1.4356 | 1.00000 | 0.0131 | 1.0000 | 0.987 | 0.985 | 4.47% 4.47% | 1.0221 0.9784 |
| Future | 2020 | 8,481,672 | 2,034,572 | 24.0% | 6,057 | 7,942,634 | 1,905,268 | 24.0% | 1.4683 | 1.00000 | 0.0149 | 0.9970 | 0.985 | 0.956 | 4.47% | 0.9364 |
| Experience | 2021 2022 | 8,430,964 8,003,198 | 3,174,885 4,201,016 | 37.7% 52.5% | 5,937 5,858 | 7,556,993 6,866,321 | 2,845,770 3,604,250 | 37.7% 52.5% | 1.5335 | 1.00000 | 0.0198 0.0132 | 0.9940 | 0.980 | 0.955 0.952 | 4.47% 4.47% | 0.8963 |
| | 2023 | 7,605,537 | 5,155,496 | 67.8% | 5,802 | 6,245,671 | 4,233,696 | 67.8% | 1.5335 | 1.00000 | 0.0096 | 0.9910 | 0.990 | 0.950 | 4.47% | 0.8212 |
| | 2024 2025 | 7,208,752 6.811.077 | 6,015,805 6,827,133 | 83.5% 100.2% | 5,747 5.695 | 5,666,280 5,124,393 | 4,728,590 5.136.473 | 83.5% 100.2% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0094 0.0091 | 0.9910 0.9910 | 0.991 0.991 | 0.948 0.945 | 4.47% 4.47% | 0.7860 0.7524 |
| | 2025 | 6,420,264 | 7,546,251 | 117.5% | 5,644 | 4,623,472 | 5,434,338 | 117.5% | 1.5335 | 1.00000 | 0.0089 | 0.9910 | 0.991 | 0.943 | 4.47% | 0.7324 |
| | 2027 2028 | 6,037,351 | 8,200,427 | 135.8% | 5,595 | 4,161,506 | 5,652,500 | 135.8% | 1.5335 | 1.00000 | 0.0088 | 0.9910 | 0.991 | 0.940 | 4.47% | 0.6893 |
| | 2028 | 5,664,865 5,302,986 | 8,865,408 9,554,629 | 156.5% 180.2% | 5,546 5,499 | 3,737,510 3,348,899 | 5,849,133 6,033,862 | 156.5% 180.2% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0087 0.0085 | 0.9910 0.9910 | 0.991 0.992 | 0.938 0.936 | 4.47% 4.47% | 0.6598 0.6315 |
| | 2030 2031 | 4,949,839 4.605.628 | 10,247,871 10,947,130 | 207.0% 237.7% | 5,450 5,403 | 2,991,998 | 6,194,466 6.333,725 | 207.0% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0090 0.0086 | 0.9910 0.9910 | 0.991 0.991 | 0.933 | 4.47% | 0.6045 0.5786 |
| | 2031 | 4,605,628 | 10,947,130 | 237.7% | 5,403 | 2,664,697 2,365,136 | 6,333,725 6,460,105 | 237.7% 273.1% | 1.5335 | 1.00000 | 0.0086 | 0.9910 | 0.991 | 0.930 0.927 | 4.47% 4.47% | 0.5786 |
| | 2033 | 3,945,451 | 12,393,666 | 314.1% | 5,308 | 2,091,380 | 6,569,558 | 314.1% | 1.5335 | 1.00000 | 0.0083 | 0.9910 | 0.992 | 0.924 | 4.47% | 0.5301 |
| | 2034 2035 | 3,630,531 3.326,290 | 13,119,911 13.833.425 | 361.4% 415.9% | 5,253 5,200 | 1,842,024 1,615,377 | 6,656,654 6,718,054 | 361.4% 415.9% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0104 0.0100 | 0.9910 0.9910 | 0.990 | 0.920 0.916 | 4.47% 4.47% | 0.5074 0.4856 |
| | 2036 | 3,032,965 | 14,520,983 | 478.8% | 5,149 | 1,409,840 | 6,749,918 | 478.8% | 1.5335 | 1.00000 | 0.0099 | 0.9910 | 0.990 | 0.912 | 4.47% | 0.4648 |
| | 2037 2038 | 2,752,076 2,484,827 | 15,164,487 15,749,798 | 551.0% 633.8% | 5,096 5,040 | 1,224,480 1,058,220 | 6,747,128 6,707,411 | 551.0% 633.8% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0103 0.0109 | 0.9910 0.9910 | 0.990 0.989 | 0.907 0.903 | 4.47% 4.47% | 0.4449 0.4259 |
| | 2039 | 2,231,904 | 16,261,324 | 728.6% | 4,983 | 909,796 | 6,628,642 | 728.6% | 1.5335 | 1.00000 | 0.0113 | 0.9910 | 0.989 | 0.898 | 4.47% | 0.4076 |
| | 2040 | 1,994,290 1,772,519 | 16,681,640 16,995,837 | 836.5% 958.9% | 4,923 4,861 | 778,118 661.968 | 6,508,728 6,347,294 | 836.5% 958.9% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0121 0.0125 | 0.9910 | 0.988 | 0.894 | 4.47% 4.47% | 0.3902 0.3735 |
| | 2042 | 1,566,889 | 17,197,298 | 1097.5% | 4,798 | 560,110 | 6,147,450 | 1097.5% | 1.5335 | 1.00000 | 0.0130 | 0.9910 | 0.987 | 0.884 | 4.47% | 0.3575 |
| | 2043 2044 | 1,377,426 1,204,057 | 17,282,417 17,251,049 | 1254.7% 1432.7% | 4,726 4,660 | 471,294 394,330 | 5,913,274 5,649,731 | 1254.7% 1432.7% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0149 0.0140 | 0.9910 0.9910 | 0.985 | 0.879 0.874 | 4.47% 4.47% | 0.3422 0.3275 |
| | 2045 | 1,046,704 | 17,101,983 | 1633.9% | 4,586 | 328,114 | 5,361,020 | 1633.9% | 1.5335 | 1.00000 | 0.0159 | 0.9910 | 0.984 | 0.869 | 4.47% | 0.3135 |
| | 2046 2047 | 904,808 777,771 | 16,837,341 16,457,109 | 1860.9% 2115.9% | 4,517 4,446 | 271,485 223,373 | 5,051,998 4,726,416 | 1860.9% 2115.9% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0149 0.0158 | 0.9910 | 0.985 0.984 | 0.864 0.860 | 4.47% 4.47% | 0.3000 0.2872 |
| | 2048 | 664,919 | 15,968,639 | 2401.6% | 4,361 | 182,783 | 4,389,702 | 2401.6% | 1.5335 | 1.00000 | 0.0191 | 0.9910 | 0.981 | 0.855 | 4.47% | 0.2749 |
| | 2049 2050 | 565,251 477,873 | 15,388,743 14,728,537 | 2722.5% 3082.1% | 4,258 4.145 | 148,730 120,353 | 4,049,104 3,709,404 | 2722.5% 3082.1% | 1.5335 | 1.00000 | 0.0238 | 0.9910 | 0.976 | 0.850 0.845 | 4.47% 4.47% | 0.2631 |
| | 2050 | 477,873 401,750 | 14,728,537 | 3082.1% | 4,145 4,032 | 120,353 96,848 | 3,709,404 3,375,035 | 3082.1% 3484.9% | 1.5335 | 1.00000 | 0.0265 | 0.9910 | 0.973 | 0.845 | 4.47% | 0.2519 |
| | 2052 | 335,872 | 13,224,314 | 3937.3% | 3,904 | 77,499 | 3,051,372 | 3937.3% | 1.5335 | 1.00000 | 0.0318 | 0.9910 | 0.968 | 0.836 | 4.47% | 0.2307 |
| | 2053 2054 | 279,226 230,803 | 12,410,151 11,573,413 | 4444.5% 5014.4% | 3,764 3,616 | 61,669 48,791 | 2,740,866 2,446,588 | 4444.5% 5014.4% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0359 0.0393 | 0.9910 0.9910 | 0.964 0.961 | 0.831 0.827 | 4.47% 4.47% | 0.2209 0.2114 |
| | 2055 | 189,736 | 10,726,654 | 5653.5% | 3,470 | 38,392 | 2,170,463 | 5653.5% | 1.5335 | 1.00000 | 0.0402 | 0.9910 | 0.960 | 0.822 | 4.47% | 0.2023 |
| | 2056 2057 | 155,108 126,076 | 9,878,559 9,035,378 | 6368.8% 7166.6% | 3,293 3.072 | 30,041 23,372 | 1,913,244 1.674.989 | 6368.8% 7166.6% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0511 0.0672 | 0.9910 0.9910 | 0.949 0.933 | 0.817 0.813 | 4.47% 4.47% | 0.1937 0.1854 |
| | 2058 | 101,859 | 8,210,977 | 8061.1% | 2,818 | 18,074 | 1,456,965 | 8061.1% | 1.5335 | 1.00000 | 0.0825 | 0.9910 | 0.918 | 0.808 | 4.47% | 0.1774 |
| | 2059 2060 | 81,770 65,263 | 7,409,968 6,645,400 | 9062.0% 10182.5% | 2,588 2,376 | 13,888 10,610 | 1,258,518 | 9062.0% | 1.5335 | 1.00000 | 0.0818 0.0817 | 0.9910 | 0.918 0.918 | 0.803 | 4.47% 4.47% | 0.1698 0.1626 |
| | 2061 | 51,742 | 5,920,752 | 11442.8% | 2,163 | 8,051 | 921,292 | 11442.8% | 1.5335 | 1.00000 | 0.0896 | 0.9910 | 0.910 | 0.793 | 4.47% | 0.1556 |
| | 2062 2063 | 40,813 31,987 | 5,241,304 4,607,240 | 12842.1% 14403.5% | 1,958 1,748 | 6,079 4,560 | 780,636 656.808 | 12842.1% 14403.5% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0949 0.1073 | 0.9910 0.9910 | 0.905 0.893 | 0.789 0.784 | 4.47% 4.47% | 0.1489 0.1426 |
| | 2064 | 24,907 | 4,021,302 | 16145.3% | 1,550 | 3,399 | 548,723 | 16145.3% | 1.5335 | 1.00000 | 0.1132 | 0.9910 | 0.887 | 0.779 | 4.47% | 0.1365 |
| | 2065 | 19,264 | 3,484,430 | 18087.9% | 1,349 | 2,516 | 455,100 | 18087.9% | 1.5335 | 1.00000 | 0.1296 | 0.9910 | 0.870 | 0.773 | 4.47% | 0.1306 |
| | 2066 2067 | 14,808 11,303 | 2,996,868 2,566,177 | 20238.4% 22703.7% | 1,183 1,043 | 1,851 1,353 | 374,655 307,071 | 20238.4% 22703.7% | 1.5335 1.5335 | 1.00000 1.00000 | 0.1235 0.1180 | 0.9910 0.9910 | 0.876 0.882 | 0.769 0.763 | 4.47% 4.47% | 0.1250 0.1197 |
| | 2068 | 8,567 | 2,172,292 | 25355.4% | 893 | 981 | 248,805 | 25355.4% | 1.5335 | 1.00000 | 0.1438 | 0.9910 | 0.856 | 0.758 | 4.47% | 0.1145 |
| | 2069 2070+ | 6,443 15,574 | 1,839,116 6,892,302 | 28546.6% 44256.3% | 774 671 | 706 1,634 | 201,623 723,241 | 28546.6% 44256.3% | 1.5335 1.5335 | 1.00000 1.00000 | 0.1334 0.1324 | 0.9910 0.9910 | 0.867 0.868 | 0.752 N/A | 4.47% 4.47% | 0.1096 0.1049 |
| | | | | | | | | | | | | | . ,,,,,, | | | |
| | Past Future | 125,273,708 128,442,262 | 27,299,501 520,951,027 | 21.8% 405.6% | 119,917 212,307 | 174,429,924 86,549,161 | 39,286,932 196,138,182 | 22.5% 226.6% | | | | | | | | |
| L | Lifetime | 253,715,970 | 548,250,528 | 216.1% | 332,224 | 260,979,085 | 235,425,114 | 90.2% | | | | | | | | |
| Note: | | | | | | | | | | | | | | | | |

Note: 253,715,9170 346,520,526 216,176 335,2224

- The premiums shown in this exhibit reflect prior rate inreases authorized by Pennsylvania.
- The predictions are based on the assumptions derived using experience data through 6/30/2018.
- The current requested increase of 6.83% is assumed to be implemented starting 7/1/2020.

Attachment 16 Metropolitan Life Insurance Company Nationwide Experience Projections on Initial Rate Basis With No Rate Increase

| | | | | Lose P | atio Demonst | ration | | | Facto | ors Derived fre | om Projected Value | es for Illustra | tive Purnoses | Only | Interest Ra | te Factors |
|----------------------|--------------|----------------------------|----------------------------|----------------------|--------------------|----------------------------|----------------------------|----------------------|-------------------------|----------------------|--------------------|-----------------------|-----------------------|------------------------|-----------------------|------------------------|
| | Calendar | | /ithout Interest | | Life. | | With Interest | | Premium | | Policy | Persistency | Factors | | Calendar Year | Mid-Year |
| | Year | Earned Premium | Incurred Claims | Loss Ratio | Years | Earned Premium | Incurred Claims | Loss Ratio | Rate Increase Factor | Benefit Downgrade | Lapse & Mortality | Policy Shock Lapse | Policy Persistency | Premium Persistency | Effective Int Rate | Disc / Accum Factor |
| | 1989 1990 | 73,088 3,257,050 | 98,323 | 0.0% | 649 9,365 | 265,877 11,340,863 | 342,354 | 0.0% | | | | | | | 4.47% 4.47% | 3.6378 3.4819 |
| | 1991 | 8,385,510 | 142,014 | 1.7% | 27,399 | 27,947,297 | 473,305 | 1.7% | | | | | | | 4.47% | 3.3328 |
| | 1992 1993 | 13,462,425 24,542,532 | 1,315,222 1,901,925 | 9.8% 7.7% | 34,519 57.383 | 42,945,965 74,938,870 | 4,195,638 5,807,393 | 9.8% 7.7% | | | | | | | 4.47% 4.47% | 3.1901 3.0534 |
| | 1994 | 29,207,461 | 2,508,403 | 8.6% | 59,284 | 85,363,121 | 7,331,179 | 8.6% | | | | | | | 4.47% | 2.9226 |
| | 1995 | 32,821,623 | 3,484,114 | 10.6% | 63,893 | 91,817,454 | 9,746,699 | 10.6% | | | | | | | 4.47% | 2.7975 |
| | 1996 1997 | 36,225,167 41,731,413 | 6,221,356 3,361,627 | 17.2% 8.1% | 76,547 78,740 | 96,998,343 106,956,139 | 16,658,619 8,615,732 | 17.2% 8.1% | | | | | | | 4.47% 4.47% | 2.6777 2.5630 |
| | 1998 | 43,940,449 | 7,714,265 | 17.6% | 82,595 | 107,794,308 | 18,924,565 | 17.6% | | | | | | | 4.47% | 2.4532 |
| | 1999 2000 | 48,097,051 55,598,283 | 19,963,200 16.502.514 | 41.5% 29.7% | 95,693 111.642 | 112,937,587 124,959,751 | 46,875,964 37,090,176 | 41.5% 29.7% | | | | | | | 4.47% 4.47% | 2.3481 2.2475 |
| | 2000 | 66,614,492 | 24,068,185 | 36.1% | 138,474 | 143,306,604 | 51,777,469 | 36.1% | | | | | | | 4.47% | 2.1513 |
| Historical | 2002 | 76,962,588 | 25,845,554 | 33.6% | 154,041 | 158,476,862 | 53,219,655 | 33.6% | | | | | | | 4.47% | 2.0591 |
| Experience | 2003 2004 | 84,734,429 93,549,570 | 28,607,127 29,417,990 | 33.8% 31.4% | 161,514 177,688 | 167,007,058 176,484,037 | 56,383,127 55,497,910 | 33.8% 31.4% | | | | | | | 4.47% 4.47% | 1.9709 1.8865 |
| | 2005 | 106,389,491 | 35,602,802 | 33.5% | 193,671 | 192,110,489 | 64,288,978 | 33.5% | | | | | | | 4.47% | 1.8057 |
| | 2006 2007 | 121,561,825 132,858,561 | 36,875,172 46,491,291 | 30.3% 35.0% | 207,903 211,594 | 210,105,912 219,795,765 | 63,734,578 76,913,289 | 30.3% 35.0% | | | | | | | 4.47% 4.47% | 1.7284 1.6544 |
| | 2008 | 138,403,077 | 54,716,840 | 39.5% | 211,070 | 219,161,487 | 86,644,201 | 39.5% | | | | | | | 4.47% | 1.5835 |
| | 2009 2010 | 141,341,445 141,989,562 | 50,240,716 48,415,921 | 35.5% 34.1% | 199,029 193,053 | 214,228,247 | 76,148,794 70,239,938 | 35.5% 34.1% | | | | | | | 4.47% 4.47% | 1.5157 1.4508 |
| | 2010 | 142,889,041 | 54,545,282 | 38.2% | 187,553 | 198,419,139 | 75,742,883 | 38.2% | | | | | | | 4.47% | 1.3886 |
| | 2012 | 139,076,413 | 62,091,189 | 44.6% | 178,477 | 184,853,140 | 82,528,381 | 44.6% | | | | | | | 4.47% | 1.3291 |
| | 2013 2014 | 135,072,470 133,047,183 | 63,646,086 70,214,415 | 47.1% 52.8% | 170,629 165,636 | 171,841,838 162,015,463 | 80,971,795 85,502,156 | 47.1% 52.8% | | | | | | | 4.47% 4.47% | 1.2722 1.2177 |
| | 2015 | 131,195,485 | 85,340,894 | 65.0% | 160,865 | 152,917,922 | 99,471,046 | 65.0% | | | | | | | 4.47% | 1.1656 |
| | 2016 2017 | 131,276,736 130,119,415 | 95,493,013 124,213,565 | 72.7% 95.5% | 156,155 151.817 | 146,458,973 138,950,153 | 106,536,839 132,643,494 | 72.7% 95.5% | | | | | | | 4.47% 4.47% | 1.1157 1.0679 |
| | 2017 | 125,961,493 | 140,540,754 | 111.6% | 147,355 | 128,748,875 | 143,650,758 | 111.6% | | | | | | | 4.47% | 1.0221 |
| Projected | 2019 | 125,279,328 | 134,979,417 | 107.7% | 145,563 | 122,567,061 | 132,057,145 | 107.7% | 1.0000 | N/A | 0.0122 | N/A | | | 4.47% | 0.9784 |
| Future Experience | 2020 2021 | 120,187,948 115,124,838 | 144,912,977 155,042,377 | 120.6% 134.7% | 143,936 141,622 | 112,549,609 103,190,762 | 135,703,282 138,970,368 | 120.6% 134.7% | 1.0000 | N/A N/A | 0.0112 0.0161 | N/A N/A | 0.989 | | 4.47% 4.47% | 0.9364 0.8963 |
| | 2022 | 110,083,108 | 165,545,413 | 150.4% | 140,234 | 94,445,481 | 142,029,204 | 150.4% | 1.0000 | N/A | 0.0098 | N/A | 0.990 | 0.956 | 4.47% | 0.8579 |
| | 2023 2024 | 105,042,870 99,979,526 | 176,551,435 188,099,230 | 168.1% 188.1% | 138,939 137,694 | 86,261,260 78,586,692 | 144,984,131 147,851,233 | 168.1% 188.1% | 1.0000 | N/A N/A | 0.0092 | N/A N/A | 0.991 | 0.954 | 4.47% 4.47% | 0.8212 |
| | 2025 | 94,892,642 | 200,133,440 | 210.9% | 136,495 | 71,393,584 | 150,572,724 | 210.9% | 1.0000 | N/A | 0.0087 | N/A | 0.991 | 0.949 | 4.47% | 0.7524 |
| | 2026 | 89,823,777 | 212,548,270 | 236.6% | 135,320 | 64,685,461 | 153,063,957 | 236.6% | 1.0000 | N/A N/A | 0.0086 0.0085 | N/A N/A | 0.991 | 0.947 | 4.47% 4.47% | 0.7201 0.6893 |
| | 2027 2028 | 84,741,905 79,682,334 | 225,146,784 237,971,315 | 265.7% 298.7% | 134,175 133,053 | 58,412,030 52,572,041 | 155,192,177 157,006,417 | 265.7% 298.7% | 1.0000 | N/A N/A | 0.0085 | N/A N/A | | | 4.47% | 0.6598 |
| | 2029 | 74,716,749 | 250,810,517 | 335.7% | 131,949 | 47,184,513 | 158,389,815 | 335.7% | 1.0000 | N/A | 0.0083 | N/A | 0.992 | | 4.47% | 0.6315 |
| | 2030 2031 | 69,806,767 64,974,716 | 263,449,743 275,730,380 | 377.4% 424.4% | 130,844 129,759 | 42,195,656 37,592,684 | 159,245,805 159,530,438 | 377.4% 424.4% | 1.0000 1.0000 | N/A N/A | 0.0084 0.0083 | N/A N/A | 0.992 | 0.934 0.931 | 4.47% 4.47% | 0.6045 0.5786 |
| | 2032 | 60,253,872 | 287,376,392 | 476.9% | 128,634 | 33,368,187 | 159,147,104 | 476.9% | 1.0000 | N/A | 0.0087 | N/A | | 0.927 | 4.47% | 0.5538 |
| | 2033 2034 | 55,637,671 51,140,877 | 298,176,293 | 535.9% 602.0% | 127,506 126.339 | 29,492,074 | 158,055,451 | 535.9% 602.0% | 1.0000 | N/A N/A | 0.0088 0.0092 | N/A N/A | 0.991 | 0.923 | 4.47% 4.47% | 0.5301 0.5074 |
| | 2034 | 46,805,524 | 307,844,461 315,998,872 | 675.1% | 125,087 | 25,947,364 22,730,601 | 156,191,152 153,461,462 | 675.1% | 1.0000 | N/A N/A | 0.0092 | N/A N/A | | | 4.47% | 0.4856 |
| | 2036 | 42,627,112 | 322,439,051 | 756.4% | 123,802 | 19,814,742 | 149,882,231 | 756.4% | 1.0000 | N/A | 0.0103 | N/A | 0.990 | 0.911 | 4.47% | 0.4648 |
| | 2037 2038 | 38,622,038 34,840,436 | 327,292,319 330,293,108 | 847.4% 948.0% | 122,405 120,940 | 17,184,085 14,837,595 | 145,622,017 | 847.4% 948.0% | 1.0000 | N/A N/A | 0.0113 0.0120 | N/A N/A | 0.989 | | 4.47% 4.47% | 0.4449 |
| | 2039 | 31,273,398 | 331,044,062 | 1058.5% | 119,390 | 12,748,049 | 134,944,274 | 1058.5% | 1.0000 | N/A | 0.0128 | N/A | 0.987 | 0.898 | 4.47% | 0.4076 |
| | 2040 2041 | 27,932,670 24,824,193 | 329,556,826 326,050,406 | 1179.8% 1313.4% | 117,631 115.814 | 10,898,578 9,270,886 | 128,584,223 121,767,344 | 1179.8% 1313.4% | 1.0000 | N/A N/A | 0.0147 0.0155 | N/A N/A | | | 4.47% 4.47% | 0.3902 0.3735 |
| | 2041 | 21,949,106 | 320,644,871 | 1460.9% | 113,879 | 7,846,060 | 114,619,656 | 1460.9% | 1.0000 | N/A | 0.0167 | N/A | | | 4.47% | 0.3735 |
| | 2043 | 19,306,880 | 313,388,572 | 1623.2% | 111,825 | 6,605,955 | 107,227,622 | 1623.2% | 1.0000 | N/A | 0.0180 | N/A | 0.982 | | 4.47% | 0.3422 |
| | 2044 2045 | 16,894,478 14,706,024 | 304,437,745 293.941.395 | 1802.0% 1998.8% | 109,791 107,616 | 5,532,954 4,609,950 | 99,703,575 92,142,862 | 1802.0% 1998.8% | 1.0000 | N/A N/A | 0.0182 0.0198 | N/A N/A | 0.982 | 0.875 0.870 | 4.47% 4.47% | 0.3275 0.3135 |
| | 2046 | 12,733,505 | 282,098,762 | 2215.4% | 105,360 | 3,820,653 | 84,642,960 | 2215.4% | 1.0000 | N/A | 0.0210 | N/A | | | 4.47% | 0.3000 |
| | 2047 2048 | 10,966,596 9,393,613 | 269,053,633 255,126,266 | 2453.4% 2716.0% | 103,045 100,496 | 3,149,562 2,582,259 | 77,271,126 70,132,976 | 2453.4% 2716.0% | 1.0000 | N/A N/A | 0.0220 0.0247 | N/A N/A | 0.978 | | 4.47% 4.47% | 0.2872 0.2749 |
| | 2049 | 8,002,505 | 240,446,363 | 3004.6% | 97,813 | 2,105,629 | 63,266,531 | 3004.6% | 1.0000 | N/A | 0.0267 | N/A | 0.973 | 0.852 | 4.47% | 0.2631 |
| | 2050 2051 | 6,780,936 5,714,942 | 225,260,499 209,824,719 | 3322.0% 3671.5% | 94,914 91,821 | 1,707,789 1,377,670 | 56,732,192 50,581,289 | 3322.0% 3671.5% | 1.0000 | N/A N/A | 0.0296 0.0326 | N/A N/A | | 0.847 | 4.47% 4.47% | 0.2519 0.2411 |
| | 2051 | 5,714,942 4,790,360 | 209,824,719 194,286,488 | 3671.5% 4055.8% | 91,821 88,307 | 1,377,670 | 50,581,289 44,829,568 | 3671.5% 4055.8% | 1.0000 | N/A N/A | 0.0326 | N/A N/A | 0.967 | | 4.47% | 0.2411 |
| | 2053 | 3,993,069 | 178,809,370 | 4478.0% | 84,247 | 881,896 | 39,491,255 | 4478.0% | 1.0000 | N/A | 0.0460 | N/A | 0.954 | | 4.47% | 0.2209 |
| | 2054 2055 | 3,310,494 2,730,294 | 163,626,550 148,845,570 | 4942.7% 5451.6% | 80,209 76,200 | 699,829 552,456 | 34,590,207 30,117,853 | 4942.7% 5451.6% | 1.0000 1.0000 | N/A N/A | 0.0479 0.0500 | N/A N/A | 0.952 | 0.829 0.825 | 4.47% 4.47% | 0.2114 0.2023 |
| | 2056 | 2,239,763 | 134,596,659 | 6009.4% | 72,062 | 433,789 | 26,068,203 | 6009.4% | 1.0000 | N/A | 0.0543 | N/A | 0.946 | 0.820 | 4.47% | 0.1937 |
| | 2057 2058 | 1,827,311 | 121,019,745 108,244,637 | 6622.8% 7301.6% | 66,630 61.561 | 338,749 263.052 | 22,434,777 19,207,048 | 6622.8% 7301.6% | 1.0000 | N/A N/A | 0.0754 0.0761 | N/A N/A | 0.925 | 0.816 | 4.47% 4.47% | 0.1854 0.1774 |
| | 2058 | 1,482,474 | 96,256,777 | 8047.7% | 56,766 | 203,142 | 16,348,363 | 8047.7% | 1.0000 | N/A | 0.0761 | N/A | 0.922 | | 4.47% | 0.1698 |
| | 2060 | 959,801 | 85,101,342 | 8866.6% | 52,170 | 156,032 | 13,834,647 | 8866.6% | 1.0000 | N/A | 0.0810 | N/A | 0.919 | 0.802 | 4.47% | 0.1626 |
| | 2061 2062 | 765,965 608,054 | 74,837,013 65,422,345 | 9770.3% 10759.3% | 47,696 43,254 | 119,187 90,563 | 11,644,929 9,743,954 | 9770.3% 10759.3% | 1.0000 1.0000 | N/A N/A | 0.0857 0.0931 | N/A N/A | 0.914 | 0.798 0.794 | 4.47% 4.47% | 0.1556 0.1489 |
| | 2063 | 480,017 | 56,834,583 | 11840.1% | 39,077 | 68,431 | 8,102,341 | 11840.1% | 1.0000 | N/A | 0.0966 | N/A | 0.903 | 0.789 | 4.47% | 0.1426 |
| | 2064 2065 | 376,803 294,217 | 49,104,467 42,160,853 | 13031.9% 14329.9% | 35,032 31,108 | 51,416 38.428 | 6,700,505 5,506,614 | 13031.9% 14329.9% | 1.0000 | N/A N/A | 0.1035 0.1120 | N/A N/A | 0.896 | 0.785 0.781 | 4.47% 4.47% | 0.1365 0.1306 |
| | 2065 | 294,217 | 42,160,853 35,993,412 | 15749.5% | 27,512 | 38,428 28,571 | 4,499,735 | 15749.5% | 1.0000 | N/A N/A | 0.1120 | N/A N/A | 0.888 | | 4.47% | 0.1306 |
| | 2067 | 176,587 | 30,545,784 | 17297.8% | 24,103 | 21,131 | 3,655,140 | 17297.8% | 1.0000 | N/A | 0.1239 | N/A | 0.876 | 0.773 | 4.47% | 0.1197 |
| | 2068 2069 | 135,730 103.793 | 25,769,578 21,591,673 | 18985.9% 20802.6% | 20,895 18.071 | 15,546 11,379 | 2,951,540 2,367,099 | 18985.9% 20802.6% | 1.0000 | N/A N/A | 0.1331 0.1351 | N/A N/A | | 0.769 | 4.47% 4.47% | 0.1145 0.1096 |
| | 2070+ | 273,054 | 77,978,338 | 28557.9% | 15,433 | 28,653 | 8,182,628 | 28557.9% | 1.0000 | N/A | 0.1460 | N/A | 0.854 | N/A | 4.47% | 0.1049 |
| | Past | 2.510.385.331 | 1.139.579.759 | 45.4% | 3.864.233 | 4,075,140,483 | 1.617.956.915 | 39.7% | | | | | | | | |
| | Future | 1,800,715,274 | 10,232,241,098 | 568.2% | 4,984,024 | 1,212,375,049 | 4,509,512,012 | 372.0% | | | | | | | | |
| Note: | Lifetime | 4,311,100,605 | 11,371,820,857 | 263.8% | 8,848,257 | 5,287,515,532 | 6,127,468,927 | 115.9% | | | | | | | | |

Attachment 19 Metropolitan Life Insurance Company Historial Claim and Active Life Reserves

Nationwide

| | Α | В | C | D = A + B + C | Е |
|----------|-------------|----------------|------------|-----------------|-----------------------|
| Calendar | | | | | Active Life |
| Year | Paid Claims | Claim Reserves | IBNR | Incurred Claims | Reserves ¹ |
| 1989 | - | - | | - | |
| 1990 | 98,323 | - | | 98,323 | |
| 1991 | 142,014 | - | | 142,014 | |
| 1992 | 1,315,222 | - | | 1,315,222 | |
| 1993 | 1,901,925 | = | | 1,901,925 | |
| 1994 | 2,508,403 | - | | 2,508,403 | |
| 1995 | 3,484,114 | - | | 3,484,114 | |
| 1996 | 6,221,356 | - | | 6,221,356 | |
| 1997 | 3,361,627 | = | | 3,361,627 | |
| 1998 | 7,400,663 | 313,602 | | 7,714,265 | |
| 1999 | 19,903,012 | 60,188 | | 19,963,200 | |
| 2000 | 15,341,470 | 1,161,045 | | 16,502,514 | |
| 2001 | 23,296,986 | 771,199 | | 24,068,185 | |
| 2002 | 25,824,880 | 20,674 | | 25,845,554 | |
| 2003 | 27,262,857 | 1,344,269 | | 28,607,127 | |
| 2004 | 29,011,708 | 406,281 | | 29,417,990 | |
| 2005 | 33,953,523 | 1,649,278 | | 35,602,802 | |
| 2006 | 35,342,958 | 1,532,214 | | 36,875,172 | |
| 2007 | 45,028,895 | 1,462,396 | | 46,491,291 | |
| 2008 | 51,819,969 | 2,896,871 | | 54,716,840 | |
| 2009 | 48,299,312 | 1,941,404 | | 50,240,716 | |
| 2010 | 46,028,904 | 2,387,017 | | 48,415,921 | |
| 2011 | 50,689,248 | 3,856,034 | | 54,545,282 | |
| 2012 | 54,145,282 | 7,945,907 | | 62,091,189 | |
| 2013 | 53,843,020 | 9,803,066 | | 63,646,086 | |
| 2014 | 51,316,061 | 18,898,354 | | 70,214,415 | |
| 2015 | 56,233,400 | 29,107,494 | | 85,340,894 | |
| 2016 | 41,767,092 | 53,725,920 | | 95,493,013 | |
| 2017 | 29,221,373 | 92,206,641 | 2,785,552 | 124,213,565 | |
| 2018 | 9,109,991 | 71,545,302 | 59,885,461 | 140,540,754 | 2,517,954,942 |

Pennsylvania Only

| | Α | В | /Ivania Only C | D = A + B + C | E |
|----------|-------------|----------------|-------------------|-----------------|-----------------------|
| Calendar | | | | _ | Active Life |
| Year | Paid Claims | Claim Reserves | IBNR | Incurred Claims | Reserves ¹ |
| 1999 | - | - | | - | |
| 2000 | 1,025 | - | | 1,025 | |
| 2001 | 408,469 | = | | 408,469 | |
| 2002 | 33,979 | - | | 33,979 | |
| 2003 | 2,902 | 99,513 | | 102,414 | |
| 2004 | 413,895 | 96,705 | | 510,600 | |
| 2005 | 1,025,526 | = | | 1,025,526 | |
| 2006 | 1,721,859 | - | | 1,721,859 | |
| 2007 | 2,737,692 | - | | 2,737,692 | |
| 2008 | 1,872,343 | 118,828 | | 1,991,171 | |
| 2009 | 4,714,177 | 116,498 | | 4,830,675 | |
| 2010 | 1,169,764 | 405,670 | | 1,575,434 | |
| 2011 | 1,801,122 | 78,535 | | 1,879,657 | |
| 2012 | 2,558,397 | 437,658 | | 2,996,055 | |
| 2013 | 2,354,141 | 245,653 | | 2,599,794 | |
| 2014 | 2,352,917 | 689,901 | | 3,042,819 | |
| 2015 | 1,489,056 | 817,127 | | 2,306,183 | |
| 2016 | 1,527,965 | 1,791,087 | | 3,319,052 | |
| 2017 | 969,322 | 3,097,385 | 80,442 | 4,147,150 | |
| 2018 | 144,949 | 1,266,598 | 1,729,393 | 3,140,941 | 104,020,196 |

¹ Figure as of 12/31/2018

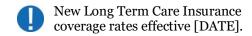


Metropolitan Life Insurance Company Long-Term Care P.O. Box 990028 Hartford, CT 06199-0028

[Mail Date]

Metropolitan Life Insurance Company

Group Name: [Group Name] Group No: [Group Number]



[First Name] [Last Name]
[Address 1]
[Address 2]
[City, ST Zip or Country Name if Foreign address]

Premium (Contribution) Increase Notification - Please review

Why MetLife is contacting you

[Insert this paragraph for insureds who ARE NOT on premium waiver:]

This letter is to inform you that we are implementing a [XX%] premium (contribution) increase on your long-term care insurance certificate scheduled to take place on [Date], ("Effective Date of Increase"). Please note that we requested a [XX%] increase on your certificate and received authority from the [STATE] insurance regulator to implement the [XX%] increase on your certificate. Please read below for information about your current and increased premium amounts, as well as options that may be available to you to lessen the impact of the rate increase. If you choose to maintain your current coverage at the increased premium, you need not take any action at this time.

[Insert this paragraph for insureds who ARE on premium waiver:]

This letter is to inform you that we are implementing a [XX%] premium (contribution) increase on your long-term care insurance certificate. Please note that we requested a [XX%] increase on your certificate and received authority from the [STATE] insurance regulator to implement the [XX%] increase on your certificate. While the increase is scheduled to take place on [Date], ("Effective Date of Increase"), your premium is currently being waived under the Waiver of Contributions provision in your certificate. As a result, there will be no impact to your premium unless your obligation to make premium payments resumes per the terms of the Waiver of Contributions provision. Please read below for information about your current and increased premium amounts, as well as options that may be available to you to lessen the impact of the rate increase. If you choose to maintain your current coverage at the increased premium, you need not take any action at this time.

What you need to know

[Insert this sentence for insureds issued in CA:]

[This premium increase was filed by Metropolitan Life Insurance Company (MetLife) and authorized by the appropriate state regulator, where required. Please note, however, that the California Department of Insurance did not review, acknowledge, or approve this rate increase request.] This premium increase impacts a broad group of certificateholders and is not based on any individual's personal factors such as age, health status or claims history. We understand how important your long-term care insurance coverage is to your personal financial plan. The decision to implement an additional premium increase was a difficult one and not taken lightly.

[Insert this paragraph for insureds who ARE NOT on premium waiver:]

We requested a [XX%] increase on your certificate and received authority from the [STATE] insurance regulator to implement the [XX%] increase on your certificate. Please read below for information about your current and increased premium amounts, as well as options that may be available to you to lessen the impact of the rate increase. If you choose to maintain your current coverage at the increased premium, you need not take any action at this time.

[Insert this paragraph for insureds who ARE on premium waiver:]

We requested a [XX%] increase on your certificate and received authority from the [STATE] insurance regulator to implement the [XX%] increase on your certificate. While the increase is scheduled to take place on [Date], ("Effective Date of Increase"), your premium is currently being waived under the Waiver of Contributions provision in your certificate. As a result, there will be no impact to your premium unless your obligation to make premium payments resumes per the terms of the Waiver of Contributions provision. Please read below for information about your current and increased premium amounts, as well as options that may be available to you to lessen the impact of the rate increase. If you choose to maintain your current coverage at the increased premium, you need not take any action at this time.

[Insert for insureds who ARE NOT on premium waiver:]

The premium amount for your long-term care insurance coverage is scheduled to increase as indicated below on the Effective Date of Increase. Please note that the information regarding your current coverage provided in this letter may not reflect any recent coverage changes that have occurred or are scheduled to occur. In addition, it is important to note that depending on the date your coverage is currently paid through, you may receive an interim direct bill that reflects the difference in the increased amount owed and the amount that was paid prior to this announcement. The interim bill may be applicable to all bill modes and frequencies.

[Insert for insureds who ARE on premium waiver:]

Your obligation to make premium payments resumes per the terms of the Waiver of Contributions provision in your certificate. Prior to the effective date of the increase, your premium rate increase will not take effect until the effective date of the increase. If your obligation to make premium payments resumes after the effective date of the increase, you will be responsible for the increased premium rate at that time. Please note that the information regarding your current coverage provided in this letter may not reflect any recent coverage changes that have occurred or are scheduled to occur.

Effective Date: [EFFECTIVE DATE]

Current Premium Amount: [OLD AMOUNT]/[FREQUENCY]
Increased Premium Amount: [NEW AMOUNT]/[FREQUENCY]

Your Options

MetLife understands that a premium increase may not be affordable for some insureds. Therefore, we are offering you personalized options, if available, to help reduce the impact of the premium increase. Please review the enclosed Coverage Change Form to see what options are available to you. Please note that all options available may not be of equal value, based on your personal situation.

Things to consider

It is important that you be aware that, as explained in the Guaranteed Renewability statement in your policy, and subject to any applicable regulatory approval, **MetLife reserves the right to increase rates in the future.** [Because the increase requested was higher than the increase being implemented at this time, it is our intent to request an additional increase, and if authorized, the additional increase will be implemented no sooner than one year from the date indicated above.] [However, MetLife will not implement another premium rate increase for a period of [X] years [from the effective date of this increase.]

Please note that any changes in your coverage that cause your premium to increase that take effect between now and the Effective Date of Increase will be calculated at the **increased** rates. If you are set up for automatic deductions, you do not need to take any action. The increased premium will be deducted on the next scheduled deduction date after the rate increase effective date.

Cancellation Requests

If you choose to cancel your Long Term Care Insurance Coverage with MetLife, a limited long term care benefit may still be available to you. Please carefully evaluate your individual situation before selecting one of these options. We believe that long term care insurance should be considered in every financial plan and encourage you to maintain your certificate to retain the valuable protection it provides.

[A. Insert for insureds with no nonforfeiture feature (applies to insureds with CBUL):]

If your coverage lapses due to cancellation or nonpayment of premium at any time between the date of this letter and 120 days from the effective date of the rate increase, you will be issued a Limited Coverage Upon Lapse Following Premium Increase Endorsement ("LCUL"), which provides limited coverage as described below. (*Please note that this limited coverage does not provide the same level of coverage you currently have.*) Under LCUL, your Total Lifetime Benefit will be the greater of: the sum of all premiums paid and waived prior to lapse **or** 30 times the Nursing Home Daily Benefit Amount in effect immediately prior to your date of lapse. However, please note that the reduced Total Lifetime Benefit payable under LCUL will not exceed the remaining Total Lifetime Benefit in effect immediately prior to your date of lapse. Once LCUL goes into effect, your certificate will be considered "paid-up" with no further premiums due, and you will no longer receive increases under any inflation option.

Note: For certificateholders who are eligible for, and meet the requirements for payment of, benefits under the Contingent Benefit Upon Lapse Nonforfeiture Feature ("CBUL") as a result of this rate increase, we will instead provide coverage under LCUL, which provides a benefit that is equal to the benefit payable under CBUL. We will not pay benefits under both CBUL and LCUL.

[B. Insert for insureds with nonforfeiture feature that will pay benefits less than those of LCUL:]

If your coverage lapses due to cancellation or nonpayment of premium at any time between the date of this letter and 120 days from the effective date of the rate increase, you will be issued a Limited Coverage Upon Lapse Following Premium Increase Endorsement ("LCUL"), which provides limited coverage as described below. (*Please note that this limited coverage does not provide the same level of coverage you currently have.*) Under LCUL, your Total Lifetime Benefit will be the greater of: the sum of all premiums paid and waived prior to lapse; **or** 30 times the Nursing Home Daily Benefit Amount in effect immediately prior to your date of lapse. However, please note that the reduced Total Lifetime Benefit payable under LCUL will not exceed the remaining Total Lifetime Benefit in effect immediately prior to your date of lapse. Once LCUL goes into effect, your certificate will be

considered "paid-up" with no further premiums due, and you will no longer receive increases under any inflation option.

Our records indicate your certificate currently includes a nonforfeiture coverage provision. However, the amount of coverage available under the nonforfeiture coverage provision included in your certificate in the event of lapse is less than what would be provided under LCUL. If you lapse at any time between the date of this letter and 120 days from the effective date of the rate increase, we will provide nonforfeiture coverage under LCUL instead of the nonforfeiture coverage feature included in your certificate since LCUL will provide a greater benefit. We will not pay benefits under both LCUL and the nonforfeiture coverage provision included in your coverage.

[C. Insert for insureds who will be provided a choice between their current nonforfeiture feature and LCUL:]

Our records indicate your certificate includes a nonforfeiture coverage provision that provides for reduced or limited coverage in the event that your certificate lapses due to cancellation or nonpayment of premium. Please refer to your certificate for additional information. If your coverage lapses, you are eligible for the limited coverage as described in your certificate.

Alternatively, if your coverage lapses at any time between the date of this letter and 120 days from the effective date of the rate increase, you may elect in writing to receive limited coverage under a Limited Coverage Upon Lapse Following Premium Increase Endorsement ("LCUL") **instead of** the nonforfeiture coverage provision included in your certificate. (*Please note that both LCUL and the nonforfeiture coverage provision in your certificate provide limited coverage and do not provide the same level of coverage you currently have.*) Under LCUL, your Total Lifetime Benefit will be the greater of: the sum of all premiums paid and waived prior to lapse; **or** 30 times the Nursing Home Daily Benefit Amount in effect immediately prior to your date of lapse. However, please note that the reduced Total Lifetime Benefit payable under LCUL will not exceed the remaining Total Lifetime Benefit in effect immediately prior to your date of lapse. Once LCUL goes into effect, your certificate will be considered "paid-up" with no further premiums due, and you will no longer receive increases under any inflation option.

If your coverage lapses at any time between the date of this letter and 120 days from the effective date of the rate increase, we are providing you a choice between the nonforfeiture coverage provision included in your certificate and LCUL because the benefits you would receive under the nonforfeiture coverage provision included in your certificate are different than those you would receive under LCUL. We will not pay benefits under both LCUL and the nonforfeiture coverage provision included in your certificate.

If your coverage lapses at any time between the date of this letter and 120 days from the effective date of the rate increase and we do **not** receive a written election from you for LCUL after your lapse but before the end of the 120-day period, we will automatically provide coverage under the nonforfeiture coverage provision included in your certificate and LCUL will no longer be available as an option.

[D. Insert for insureds with a nonforfeiture value that is greater than or equal to the value of LCUL:]

Our records indicate your certificate includes a nonforfeiture coverage provision that provides for reduced or limited coverage in the event that your coverage lapses due to cancellation or nonpayment of premium. Please refer to your certificate for additional information. (*Please note that this limited coverage does not provide the same level of coverage you currently have.*)

[E. Insert for insureds with paid-up coverage with a layer of non-paid up coverage:]

Our records indicate you are making premium payments on only a portion of your coverage and that the remainder of your coverage is fully paid-up. In the event you stop making premium payments or notify MetLife you do not wish to maintain the portion of your coverage that is not fully paid up, you will retain the portion of your coverage that is fully paid-up. In this case, the portion of your coverage on which you are making premium payments will end. Please be aware that the portion of your coverage that is paid-up is **not** subject to the premium increase.

You may call the customer service team at 1-800-438-6388, Monday through Friday, to discuss your options in more detail.

Next Steps

• If you choose to decrease or cancel your coverage, please complete the enclosed Coverage Change / Cancellation Form and return it in the enclosed postage-paid envelope. If you are making a coverage change, we will need to receive your completed form by [Coverage Change Receipt Date] to ensure that any coverage changes take effect on the Effective Date of Increase. Please be advised that under the terms of your certificate, you may make decreases to your coverage at any time.

[Insert next sentence only for insureds with Cancellation options A or B:]

While you are entitled to receive limited coverage under LCUL if your coverage lapses due to
cancellation or nonpayment of premium at any time between the date of this letter and 120
days following the first due date of the increased premium, we will still need to receive your
completed Coverage Change / Cancellation Form by [Coverage Change Receipt Date] if you
wish to ensure that your cancellation is processed before the Effective Date of Increase.

[Insert next sentence only for insureds with Cancellation option C:]

• While you are entitled to receive limited coverage under LCUL if you elect LCUL in writing and if your coverage lapses due to cancellation or nonpayment of premium at any time between the date of this letter and 120 days following the first due date of the increased premium, or under the nonforfeiture coverage provision included in your certificate today, we will still need to receive your completed Coverage Change / Cancellation Form by [Coverage Change Receipt Date] if you wish to ensure that your cancellation is processed before the Effective Date of Increase.

At MetLife we're here to help

We are ready to assist you. If you have any additional questions, please call our Customer Service team at [1-800-438-6388]. Call center representatives will be pleased to answer any questions or provide additional options to lessen the amount of this increase, if available.

Sincerely,

Thomas G. Reilly, Assistant Vice President

Product Management & Compliance

Thanas S. Reily

Metropolitan Life Insurance Company

Encl: [Coverage Change Form, Business Reply Envelope]



Metropolitan Life Long-Term Care P.O. Box 99028 Hartford, CT 06199-0028

Metropolitan Life Insurance Company

Group Name: Group #:

[Group Name] [Group No.]

[First Name] [Middle Initial] [Last Name]

[Leave out for insureds on Waiver of Contributions:]

[Increased Premium Amount Date: [Effective Date of Increase]]

Premium (Contribution) Increase Coverage Change Request Form

If you intend to maintain your current coverage at the new increased premium, there is no need to return this form.

Please use this form to request a decrease in your long-term care insurance coverage, if available, or to cancel your coverage. If you have any questions, you can speak with our **Customer Service team at [1-800-438-64881**.

To request a coverage change check only ONE box below Keep current coverage and **Reduce Daily Benefit and** Reduce Lifetime Benefit and pay premium increase **Minimize Premium Increase Minimize Premium Increase** (No Action Required) Total Lifetime Benefit: Daily Benefit Amount: [\$XXX.XX] [X] Years Daily Benefit Amount: Premium: Premium: [\$XXX.XX] [\$XXX.XX][mode] [\$XXX.XX][mode] Total Lifetime Benefit: [X] Years **Customized Decrease Option** Premium: **Coverage Termination** Please call the Customer Service [\$XXX.XX][mode] team for available options [A. or B. Insert for insureds with OTHER no nonforfeiture feature (applies Note: If you do not submit a to insureds with CBUL) OR You may call the customer service insureds with nonforfeiture selection, your coverage will team at the phone number feature that will pay benefits less remain the same and your new than those of LCUL:] provided above to explore other increased premium will become ☐ Please CANCEL my coverage. possible decrease options. Our effective on [DATE]. customer service team will take I understand that I will be you through any available options provided with coverage under a and provide you with instructions Limited Coverage Upon Lapse Following Premium Increase on how to complete the section Endorsement ("LCUL"). As below. Please do not select the Other Coverage Change option if you consider this option, you have not discussed your please note that this is **limited** options with our customer coverage and does not provide service team. the same level of coverage you currently have. [C. Insert for insureds who will be provided with a choice between their current nonforfeiture feature and LCUL:1

[Please CANCEL my coverage and apply the limited coverage under the nonforfeiture **feature** that is included in my certificate. As you consider this option, please note that this is **limited** coverage and does not provide the same level of coverage you currently have.] ☐ [Please CANCEL my coverage and apply the Limited Coverage Upon Lapse **Following Premium Increase** Endorsement ("LCUL"). | understand in making this selection that I waive my rights under any other nonforfeiture feature. As you consider this option, please note that this is limited coverage and does not provide the same level of coverage you currently have.] **ID.** Insert for insureds with a nonforfeiture value that is greater than or equal to the value of LCUL:] ☐ [Please CANCEL my coverage. I understand that this will trigger coverage under the nonforfeiture feature that is included in my certificate. As you consider this option, please note that this is limited coverage and does not provide the same level of coverage you currently have.] [E. Insert for insureds with paidup coverage with a layer of nonpaid-up coverage:] ☐ [Please CANCEL the portion of my coverage that is not paidup. I understand that I will retain the portion of my coverage that is paid-up, and the portion of my coverage on which I am making premium payments will end. Please note that the portion of your coverage that is paid-up is **not** subject to the premium increase.]

| become effective on the premium rate increa | ise date outlined above. | |
|--|--|---|
| | | |
| Signature: | Date: | - |
| Please sign, date and return this form to Change Receipt Date. No Response is re | the address listed below by [Coverage equired if you are not making any changes. | |

I understand the certificate change(s) I have selected above. I agree that any change(s) will

Metropolitan Life Insurance Company [Long-Term Care * PO Box 14634 * Lexington, KY * 40512-9938] [Phone: 1-800-438-6388]

Life, Accident & Health, Annuity, Credit Transmittal Document

| 1. | Prepared for the State of | Pennsylvania | | | | | | | | | | | |
|---------------|--|--------------|--|----------------------------|--|----------------|-----|---------------------|---|-------|------------|--|--|
| | | | Da | partment | Hea Only | | | | | | | | |
| 2. | State Tracking ID | | D(| pai tillelit | Ose Omy | | | | | | | | |
| | 9 | | | | | | | | | | | | |
| | | | T | | | | | | | | | | |
| 3. | Insurer Name & Address | | Domicile | Insurer License Type | NAIC Group # | NAIC# | | NAIC# | | FEIN# | State # | | |
| | Metropolitan Life Insurance 200 Park Avenue New York, NY | e Company | NY | | 241 | 65978 | 3 | 13-5581829 | | | | | |
| 4. | Contact Name & Address | Telephor | ne # | Fax | # | | E-n | nail Address | | | | | |
| Metro 1300 | rah Fountas opolitan Life Insurance Co. Hall Blvd. nfield, CT 06602 | (860) | 656-3808 | (86 | 0) 860-656- | 3815 | | dfountas@metlife.co | m | | | | |
| | | | | | | <u></u> | | | | | | | |
| | | | & Approval | | ile & Use | \boxtimes In | | | | | | | |
| 5. | Requested Filing Mode | ☐ Combin | ation (please | explain): | | | | | | | | | |
| | | Other (p | lease explain) | : | | | | | | | | | |
| | 6. Company Tracking Number CT20-82 | | | | | | | | | | | | |
| 6. | Company Tracking Numb | | | D : C1 | | | | | | | | | |
| 7. | New Submission | Resubmis | ssion | Previous fil | e# | | | | | | | | |
| | | | ndividual | Franch | ise | | | | | | | | |
| 8. | Market | Gro | up | ⊠ Eı | ☐ Small ☐ Large ☐ Small and Large ☐ Employer ☐ Association ☐ Blanket ☐ Discretionary ☐ Trust | | | | | | | | |
| | | | | | ther: | | | | | | | | |
| 9. | Type of Insurance (TOI) | LTO | C03G – Grou | p Long-Te | rm Care In | surance | | | | | | | |
| 10. | Sub-Type of Insurance (Su TOI) | ıb- | C03G.001 – Q | ualified | | | | | | | | | |
| | FORMS Policy Application/Enrollment Rider/Endorsement Advertising Schedule of Benefits Other Rates New Rate Revised Rate | | | | | | | | | | | | |
| 11. | Submitted Documents | Plea | FILING OTE se explain: _ | Inform | ational | R RATE: | | | - | | | | |
| | | SUI | SUPPORTING DOCUMENTATION | | | | | | | | | | |
| | | As Sta | ☐ Articles of Incorporation ☐ Third Party Authorization ☐ Association Bylaws ☐ Trust Agreements ☐ Statement of Variability ☐ Certifications ☐ Actuarial Memorandum ☐ Other | | | | | | | | | | |

LHTD-1, Page 1 of 2

| 12. Filing Submission Date | e April 23, 2020 | | |
|--|-------------------------------------|-----------------------|--|
| 13 Filing Fee | Amount | | neck Date |
| (If required) | Retaliatory \(\subseteq \text{Yes} | ⊠ No Cl | neck Number |
| 14. Date of Domiciliary A | pproval Not Applicable | | |
| 15. Filing Description: | | | |
| This is a filing of a pren letter for details. | nium rate schedule increase for gr | oup long-term care in | nsurance policies. Please see our filing |
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| | | | filing, and the filing complies with all vania |
| Print Name Thomas G. Re | | Title | Assistant Vice President |
| Thunas S | - feely | | |
| | • | Date: | April 23, 2020 |

LHTD-1, Page 2 of 2

| 17. | Form Filing | Attachment |
|------|---|------------|
| This | filing transmittal is part of company tracking number | CT20-82 |
| This | filing corresponds to rate filing company tracking number | CT20-82 |

| | Document Name | Form Number | | Replaced Form Number |
|----|---------------|-------------|-----------------------------|---------------------------------|
| | Description | | | Previous State Filing Number |
| 01 | | | ☐ Initial ☐ Revised ☐ Other | |
| 02 | | | ☐ Initial ☐ Revised ☐ Other | |
| 03 | | | ☐ Initial ☐ Revised ☐ Other | |
| 04 | | | ☐ Initial ☐ Revised ☐ Other | |
| 05 | | | ☐ Initial ☐ Revised ☐ Other | |
| 06 | | | ☐ Initial ☐ Revised ☐ Other | |
| 07 | | | ☐ Initial ☐ Revised ☐ Other | |
| 08 | | | ☐ Initial ☐ Revised ☐ Other | |
| 09 | | | ☐ Initial ☐ Revised ☐ Other | |
| 10 | | | ☐ Initial ☐ Revised ☐ Other | |

LH FFA-1

| 18. | | Rate Filing A | Attachment | |
|------|---|--------------------------|------------------------|---------------------------------|
| This | filing transmittal is part of company track | ing number | CT20-82 | |
| This | filing corresponds to form filing company | tracking number | CT20-82 | |
| Over | all percentage rate indication (when applie | cable) | 6.82% | |
| Over | all percentage rate impact for this filing | | 6.829 | / ₀ |
| | Document Name | Affected Form Numbers | | Previous State Filing Number |
| | Description | | | |
| 01 | GPNP99-LTC, G.LTC6997 | | ☐ New ☐ Revised | |
| | · | | Request +_6.82% - | |
| 0.2 | | | Other | |
| 02 | | | ☐ New ☐ Revised | |
| | | | Request +%% | |
| | | | ☐Other | |
| 03 | | | New | |
| | | | ☐ Revised Request +%% | |
| | | | Other | |
| 04 | | | ☐ New | |
| | | | Revised | |
| | | | Request +%% | |
| 05 | | | Other | |
| 0.5 | | | Revised | |
| | | | Request +%% | |
| 0.1 | | | Other | |
| 06 | | | ☐ New ☐ Revised | |
| | | | Request +%% | |
| | | | Other | |
| 07 | | | ☐ New | |
| | | | Revised | |
| | | | Request +%% Other | |
| 08 | | | New | |
| | | | ☐ Revised | |
| | | | Request +%% | |
| 09 | | | Other New | |
| UY | | | Revised | |
| | | | | |
| | | | Other | |
| 10 | | | □ New | |
| | | | ☐ Revised Request +%% | |
| | | | Other | |

LH RFA-1

Exhibit I-A Metropolitan Life Insurance Company Nationwide Experience Projections (Premium Normalized to Include Prior Authorized Increases)

| | | Loss Ratio Demonstration | | | | | | | | are Desired for | om Projected Values for | . Illuntrati | ua Durmanaa | Only | Interest Ra | to Footoro |
|--------------------------|------------------|----------------------------|----------------------------|----------------------|--------------------|----------------------------|----------------------------|----------------------|-------------------------|----------------------|-------------------------|--------------------|-----------------------|------------------------|-----------------------|------------------------|
| | | | ithout Interest | | | | With Interest | | Premium | | Pe | rsistency F | Factors | | Calendar Year | Mid-Year |
| | Calendar Year | Earned Premium | Incurred Claims | Loss Ratio | Life Years | Earned Premium | Incurred Claims | Loss Ratio | Rate Increase Factor | Benefit Downgrade | | Policy ck Lapse | Policy Persistency | Premium Persistency | Effective Int Rate | Disc / Accum Factor |
| | 1989 | 73,088 | - | 0.0% | 649 | 265,877 | - | 0.0% | | | | | | | 4.47% | 3.6378 |
| | 1990 1991 | 3,257,050 8.385.510 | 98,323 142,014 | 3.0% 1.7% | 9,365 27,399 | 11,340,863 27,947,297 | 342,354 473,305 | 3.0% 1.7% | | | | | | | 4.47% 4.47% | 3.4819 3.3328 |
| | 1992 | 13,462,425 | 1,315,222 | 9.8% | 34,519 | 42,945,965 | 4,195,638 | 9.8% | | | | | | | 4.47% | 3.1901 |
| | 1993 | 24,542,532 | 1,901,925 | 7.7% | 57,383 | 74,938,870 | 5,807,393 | 7.7% | | | | | | | 4.47% | 3.0534 |
| | 1994 1995 | 29,207,461 32,821,623 | 2,508,403 3,484,114 | 8.6% 10.6% | 59,284 63,893 | 85,363,121 91,817,454 | 7,331,179 9,746,699 | 8.6% 10.6% | | | | | | | 4.47% 4.47% | 2.9226 2.7975 |
| | 1996 | 36,225,167 | 6,221,356 | 17.2% | 76,547 | 96,998,343 | 16,658,619 | 17.2% | | | | | | | 4.47% | 2.6777 |
| | 1997 | 41,731,413 | 3,361,627 | 8.1% | 78,740 | 106,956,139 | 8,615,732 | 8.1% | | | | | | | 4.47% | 2.5630 |
| | 1998 1999 | 43,940,449 48,097,051 | 7,714,265 19,963,200 | 17.6% 41.5% | 82,595 95,693 | 107,794,308 112,937,587 | 18,924,565 46,875,964 | 17.6% 41.5% | | | | | | | 4.47% 4.47% | 2.4532 |
| | 2000 | 55,598,283 | 16,502,514 | 29.7% | 111,642 | 124,959,751 | 37,090,176 | 29.7% | | | | | | | 4.47% | 2.2475 |
| | 2001 | 66,614,492 | 24,068,185 | 36.1% | 138,474 | 143,306,604 | 51,777,469 | 36.1% | | | | | | | 4.47% | 2.1513 |
| Historical Experience | 2002 2003 | 76,962,588 84,734,429 | 25,845,554 28,607,127 | 33.6% 33.8% | 154,041 161,514 | 158,476,862 167,007,058 | 53,219,655 56.383.127 | 33.6% 33.8% | | | | | | | 4.47% 4.47% | 2.0591 1.9709 |
| Exponence | 2004 | 93,549,570 | 29,417,990 | 31.4% | 177,688 | 176,484,037 | 55,497,910 | 31.4% | | | | | | | 4.47% | 1.8865 |
| | 2005 | 106,389,491 | 35,602,802 | 33.5% | 193,671 | 192,110,489 | 64,288,978 | 33.5% | | | | | | | 4.47% | 1.8057 |
| | 2006 2007 | 121,561,825 132,858,561 | 36,875,172 46,491,291 | 30.3% 35.0% | 207,903 211.594 | 210,105,912 219,795,765 | 63,734,578 76,913,289 | 30.3% 35.0% | | | | | | | 4.47% 4.47% | 1.7284 1.6544 |
| | 2008 | 138,403,077 | 54,716,840 | 39.5% | 211,070 | 219,161,487 | 86,644,201 | 39.5% | | | | | | | 4.47% | 1.5835 |
| | 2009 | 141,341,445 | 50,240,716 | 35.5% | 199,029 | 214,228,247 | 76,148,794 | 35.5% | | | | | | | 4.47% | 1.5157 |
| | 2010 2011 | 141,989,562 142,889,041 | 48,415,921 54,545,282 | 34.1% 38.2% | 193,053 187,553 | 205,992,943 198,419,139 | 70,239,938 75,742,883 | 34.1% 38.2% | | | | | | | 4.47% 4.47% | 1.4508 1.3886 |
| | 2012 | 142,013,255 | 62,091,189 | 43.7% | 178,477 | 188,756,638 | 82,528,381 | 43.7% | | | | | | | 4.47% | 1.3291 |
| | 2013 | 162,863,192 | 63,646,086 | 39.1% | 170,629 | 207,197,738 | 80,971,795 | 39.1% | | | | | | | 4.47% | 1.2722 |
| | 2014 2015 | 189,092,342 187,270,622 | 70,214,415 85,340,894 | 37.1% 45.6% | 165,636 160,865 | 230,263,300 218,277,590 | 85,502,156 99,471,046 | 37.1% 45.6% | | | | | | | 4.47% 4.47% | 1.2177 1.1656 |
| | 2016 | 187,556,911 | 95,493,013 | 50.9% | 156,155 | 209,247,985 | 106,536,839 | 50.9% | | | | | | | 4.47% | 1.1157 |
| | 2017 | 186,345,406 | 124,213,565 | 66.7% | 151,817 | 198,992,000 | 132,643,494 | 66.7% | | | | | | | 4.47% | 1.0679 |
| Projected | 2018 2019 | 180,833,741 179,854,405 | 140,540,754 134,979,417 | 77.7% 75.0% | 147,355 145.563 | 184,835,382 175,960,601 | 143,650,758 132.057.145 | 77.7% 75.0% | 1.4356 | N/A | 0.0122 | N/A | 0.988 | 0.995 | 4.47% 4.47% | 1.0221 0.9784 |
| Future | 2020 | 172,545,082 | 144,912,977 | 84.0% | 143,936 | 161,579,276 | 135,703,282 | 84.0% | 1.4356 | N/A | 0.0112 | N/A | 0.989 | 0.959 | 4.47% | 0.9364 |
| Experience | 2021 | 165,276,344 158,038,299 | 155,042,377 165,545,413 | 93.8% 104.8% | 141,622 140,234 | 148,143,460 135,588,498 | 138,970,368 142.029.204 | 93.8% 104.8% | 1.4356 1.4356 | N/A N/A | 0.0161 0.0098 | N/A N/A | 0.984 | 0.958 0.956 | 4.47% 4.47% | 0.8963 |
| | 2022 | 150,802,397 | 176,551,435 | 117.1% | 138,939 | 123,839,007 | 144,984,131 | 117.1% | 1.4356 | N/A | 0.0092 | N/A | 0.991 | 0.954 | 4.47% | 0.8212 |
| | 2024 | 143,533,323 | 188,099,230 | 131.0% | 137,694 | 112,821,189 | 147,851,233 | 131.0% | 1.4356 | N/A | 0.0090 | N/A | 0.991 | 0.952 | 4.47% | 0.7860 |
| | 2025 2026 | 136,230,454 128,953,454 | 200,133,440 212,548,270 | 146.9% 164.8% | 136,495 135,320 | 102,494,568 92,864,204 | 150,572,724 153,063,957 | 146.9% 164.8% | 1.4356 1.4356 | N/A N/A | 0.0087 0.0086 | N/A N/A | 0.991 0.991 | 0.949 0.947 | 4.47% 4.47% | 0.7524 0.7201 |
| | 2027 | 121,657,781 | 225,146,784 | 185.1% | 134,175 | 83,857,897 | 155,192,177 | 185.1% | 1.4356 | N/A | 0.0085 | N/A | 0.992 | 0.943 | 4.47% | 0.6893 |
| | 2028 | 114,394,123 | 237,971,315 | 208.0% | 133,053 | 75,473,850 | 157,006,417 | 208.0% | 1.4356 | N/A | 0.0084 | N/A | 0.992 | 0.940 | 4.47% | 0.6598 |
| | 2029 | 107,265,394 100,216,491 | 250,810,517 263,449,743 | 233.8% 262.9% | 131,949 130.844 | 67,739,368 60,577,230 | 158,389,815 159,245,805 | 233.8% 262.9% | 1.4356 1.4356 | N/A N/A | 0.0083 0.0084 | N/A N/A | 0.992 | 0.938 | 4.47% 4.47% | 0.6315 0.6045 |
| | 2031 | 93,279,467 | 275,730,380 | 295.6% | 129,759 | 53,969,077 | 159,530,438 | 295.6% | 1.4356 | N/A | 0.0083 | N/A | 0.992 | 0.931 | 4.47% | 0.5786 |
| | 2032 | 86,502,095 | 287,376,392 298,176,293 | 332.2% 373.3% | 128,634 127,506 | 47,904,276 42,339,622 | 159,147,104 158,055,451 | 332.2% | 1.4356 1.4356 | N/A N/A | 0.0087 | N/A | 0.991 | 0.927 | 4.47% 4.47% | 0.5538 0.5301 |
| | 2033 | 79,874,951 73,419,231 | 298,176,293 307,844,461 | 373.3% 419.3% | 127,506 | 42,339,622 37,250,741 | 158,055,451 156,191,152 | 373.3% 419.3% | 1.4356 | N/A N/A | 0.0088 | N/A N/A | 0.991 0.991 | 0.923 0.919 | 4.47% 4.47% | 0.5301 |
| | 2035 | 67,195,282 | 315,998,872 | 470.3% | 125,087 | 32,632,668 | 153,461,462 | 470.3% | 1.4356 | N/A | 0.0099 | N/A | 0.990 | 0.915 | 4.47% | 0.4856 |
| | 2036 2037 | 61,196,639 55,446,846 | 322,439,051 327,292,319 | 526.9% 590.3% | 123,802 122,405 | 28,446,582 24,669,939 | 149,882,231 145.622.017 | 526.9% 590.3% | 1.4356 1.4356 | N/A N/A | 0.0103 0.0113 | N/A N/A | 0.990 | 0.911 0.906 | 4.47% 4.47% | 0.4648 0.4449 |
| | 2037 | 50,017,876 | 330,293,108 | 660.4% | 120,940 | 21,301,255 | 140,662,864 | 660.4% | 1.4356 | N/A | 0.0120 | N/A | 0.988 | 0.900 | 4.47% | 0.4259 |
| | 2039 | 44,896,939 | 331,044,062 | 737.3% | 119,390 | 18,301,446 | 134,944,274 | 737.3% | 1.4356 | N/A | 0.0128 | N/A | 0.987 | 0.898 | 4.47% | 0.4076 |
| | 2040 2041 | 40,100,900 35.638.286 | 329,556,826 326,050,406 | 821.8% 914.9% | 117,631 115,814 | 15,646,294 13.309.536 | 128,584,223 121,767,344 | 821.8% 914.9% | 1.4356 1.4356 | N/A N/A | 0.0147 0.0155 | N/A N/A | 0.985 0.985 | 0.893 0.889 | 4.47% 4.47% | 0.3902 0.3735 |
| | 2041 | 31,510,732 | 320,644,871 | 1017.6% | 113,879 | 11,264,017 | 114,619,656 | 1017.6% | 1.4356 | N/A | 0.0167 | N/A | 0.983 | 0.884 | 4.47% | 0.3575 |
| | 2043 | 27,717,481 | 313,388,572 | 1130.7% | 111,825 | 9,483,688 | 107,227,622 | 1130.7% | 1.4356 | N/A | 0.0180 | N/A | 0.982 | 0.880 | 4.47% | 0.3422 |
| | 2044 2045 | 24,254,172 21,112,367 | 304,437,745 293,941,395 | 1255.2% 1392.3% | 109,791 107,616 | 7,943,258 6.618.169 | 99,703,575 92,142,862 | 1255.2% 1392.3% | 1.4356 1.4356 | N/A N/A | 0.0182 0.0198 | N/A N/A | 0.982 | 0.875 0.870 | 4.47% 4.47% | 0.3275 0.3135 |
| | 2046 | 18,280,565 | 282,098,762 | 1543.2% | 105,360 | 5,485,034 | 84,642,960 | 1543.2% | 1.4356 | N/A | 0.0210 | N/A | 0.979 | 0.866 | 4.47% | 0.3000 |
| | 2047 | 15,743,943 | 269,053,633 | 1708.9% | 103,045 | 4,521,597 | 77,271,126 | 1708.9% | 1.4356 | N/A | 0.0220 | N/A | 0.978 | 0.861 | 4.47% | 0.2872 |
| | 2048 2049 | 13,485,726 11.488.614 | 255,126,266 240,446,363 | 1891.8% 2092.9% | 100,496 97.813 | 3,707,161 3.022.898 | 70,132,976 63,266,531 | 1891.8% 2092.9% | 1.4356 1.4356 | N/A N/A | 0.0247 0.0267 | N/A N/A | 0.975 0.973 | 0.857 0.852 | 4.47% 4.47% | 0.2749 0.2631 |
| | 2050 | 9,734,896 | 225,260,499 | 2313.9% | 94,914 | 2,451,748 | 56,732,192 | 2313.9% | 1.4356 | N/A | 0.0296 | N/A | 0.970 | 0.847 | 4.47% | 0.2519 |
| | 2051 | 8,204,526 | 209,824,719 | 2557.4% | 91,821 | 1,977,820 | 50,581,289 | 2557.4% | 1.4356 | N/A | 0.0326 | N/A | 0.967 | 0.843 | 4.47% | 0.2411 |
| | 2052 2053 | 6,877,171 5,732,558 | 194,286,488 178,809,370 | 2825.1% 3119.2% | 88,307 84,247 | 1,586,835 1,266,074 | 44,829,568 39,491,255 | 2825.1% 3119.2% | 1.4356 1.4356 | N/A N/A | 0.0383 0.0460 | N/A N/A | 0.962 0.954 | 0.838 0.834 | 4.47% 4.47% | 0.2307 0.2209 |
| | 2054 | 4,752,635 | 163,626,550 | 3442.9% | 80,209 | 1,004,694 | 34,590,207 | 3442.9% | 1.4356 | N/A | 0.0479 | N/A | 0.952 | 0.829 | 4.47% | 0.2114 |
| | 2055 2056 | 3,919,684 3,215,464 | 148,845,570 134,596,659 | 3797.4% 4185.9% | 76,200 72.062 | 793,120 622,760 | 30,117,853 26.068.203 | 3797.4% 4185.9% | 1.4356 1.4356 | N/A N/A | 0.0500 0.0543 | N/A N/A | 0.950 0.946 | 0.825 0.820 | 4.47% 4.47% | 0.2023 0.1937 |
| | 2056 | 3,215,464 2,623,337 | 134,596,659 | 4185.9% 4613.2% | 72,062 66,630 | 622,760 486,317 | 26,068,203 | 4185.9% 4613.2% | 1.4356 | N/A N/A | 0.0543 | N/A N/A | 0.946 | 0.820 | 4.47% 4.47% | 0.1937 |
| | 2058 | 2,128,280 | 108,244,637 | 5086.0% | 61,561 | 377,644 | 19,207,048 | 5086.0% | 1.4356 | N/A | 0.0761 | N/A | 0.924 | 0.811 | 4.47% | 0.1774 |
| | 2059 2060 | 1,717,112 1,377,916 | 96,256,777 85,101,342 | 5605.7% 6176.1% | 56,766 52,170 | 291,636 224,003 | 16,348,363 13,834,647 | 5605.7% 6176.1% | 1.4356 1.4356 | N/A N/A | 0.0779 0.0810 | N/A N/A | 0.922 0.919 | 0.807 0.802 | 4.47% 4.47% | 0.1698 0.1626 |
| | 2061 | 1,099,641 | 74,837,013 | 6805.6% | 47,696 | 171,108 | 11,644,929 | 6805.6% | 1.4356 | N/A | 0.0857 | N/A | 0.914 | 0.798 | 4.47% | 0.1556 |
| | 2062 | 872,938 | 65,422,345 | 7494.5% | 43,254 | 130,015 | 9,743,954 | 7494.5% | 1.4356 | N/A | 0.0931 | N/A | 0.907 | 0.794 | 4.47% | 0.1489 |
| | 2063 2064 | 689,126 540,948 | 56,834,583 49,104,467 | 8247.3% 9077.5% | 39,077 35,032 | 98,242 73,815 | 8,102,341 6,700,505 | 8247.3% 9077.5% | 1.4356 1.4356 | N/A N/A | 0.0966 0.1035 | N/A N/A | 0.903 0.896 | 0.789 0.785 | 4.47% 4.47% | 0.1426 0.1365 |
| | 2064 | 422,385 | 42,160,853 | 9981.6% | 35,032 | 73,815 55,168 | 5,506,614 | 9981.6% | 1.4356 | N/A N/A | 0.1035 | N/A N/A | 0.888 | 0.785 | 4.47% | 0.1305 |
| | 2066 | 328,094 | 35,993,412 | 10970.4% | 27,512 | 41,017 | 4,499,735 | 10970.4% | 1.4356 | N/A | 0.1156 | N/A | 0.884 | 0.777 | 4.47% | 0.1250 |
| | 2067 2068 | 253,514 194.858 | 30,545,784 25,769,578 | 12049.0% 13224.8% | 24,103 20.895 | 30,336 22,318 | 3,655,140 2.951,540 | 12049.0% 13224.8% | 1.4356 1.4356 | N/A N/A | 0.1239 0.1331 | N/A N/A | 0.876 0.867 | 0.773 0.769 | 4.47% 4.47% | 0.1197 0.1145 |
| | 2069 | 149,008 | 21,591,673 | 14490.3% | 18,071 | 16,336 | 2,367,099 | 14490.3% | 1.4356 | N/A | 0.1351 | N/A | 0.865 | 0.765 | 4.47% | 0.1096 |
| | 2070+ | 392,003 | 77,978,338 | 19892.3% | 15,433 | 41,135 | 8,182,628 | 19892.3% | 1.4356 | N/A | 0.1460 | N/A | 0.854 | N/A | 4.47% | 0.1049 |
| | Past | 2,820,611,603 | 1,139,579,759 | 40.4% | 3,864,233 | 4,426,924,751 | 1,617,956,915 | 36.5% | | | | | | | | |
| | Future | 2,585,155,752 | 10,232,241,098 | 395.8% | 4,984,024 | 1,740,518,547 | 4,509,512,012 | 259.1% | | | | | | | | |
| | Lifetime | 5,405,767,355 | 11,371,820,857 | 210.4% | 8,848,257 | 6,167,443,298 | 6,127,468,927 | 99.4% | | | | | | | | |

Lifetime 15.405,/19/,/350 11.31 | Linear Lin

Exhibit I-A
Metropolitan Life Insurance Company
Nationwide Experience Projections (Premium Normalized to Include Prior Authorized Increases) and With 6.82% Future Increase

| | | Loss Ratio Demonstration | | | | | | | | ore Dariyad fra | om Projected Value | e for Illustrat | ivo Burnoene | Only | Interest Ra | to Eactors |
|--------------------------|------------------|----------------------------|----------------------------|----------------------|--------------------|----------------------------|----------------------------|----------------------|-------------------------|----------------------|-----------------------------|-----------------------|-----------------------|------------------------|-----------------------|------------------------|
| | | | lithout Interest | | | | With Interest | | Premium | | | Persistency | Factors | | Calendar Year | Mid-Year |
| | Calendar Year | Earned Premium | Incurred Claims | Loss Ratio | Life Years | Earned Premium | Incurred Claims | Loss Ratio | Rate Increase Factor | Benefit Downgrade | Policy Lapse & Mortality | Policy Shock Lapse | Policy Persistency | Premium Persistency | Effective Int Rate | Disc / Accum Factor |
| | 1989 | 73,088 | | 0.0% | 649 | 265,877 | - | 0.0% | | | | | | | 4.47% | 3.6378 |
| | 1990 1991 | 3,257,050 8.385,510 | 98,323 142,014 | 3.0% 1.7% | 9,365 27,399 | 11,340,863 27,947,297 | 342,354 473,305 | 3.0% 1.7% | | | | | | | 4.47% 4.47% | 3.4819 3.3328 |
| | 1992 | 13,462,425 | 1,315,222 | 9.8% | 34,519 | 42,945,965 | 4,195,638 | 9.8% | | | | | | | 4.47% | 3.1901 |
| | 1993 | 24,542,532 | 1,901,925 | 7.7% | 57,383 | 74,938,870 | 5,807,393 | 7.7% | | | | | | | 4.47% | 3.0534 |
| | 1994 1995 | 29,207,461 32,821,623 | 2,508,403 3,484,114 | 8.6% 10.6% | 59,284 63,893 | 85,363,121 91,817,454 | 7,331,179 9,746,699 | 8.6% 10.6% | | | | | | | 4.47% 4.47% | 2.9226 2.7975 |
| | 1996 | 36,225,167 | 6,221,356 | 17.2% | 76,547 | 96,998,343 | 16,658,619 | 17.2% | | | | | | | 4.47% | 2.6777 |
| | 1997 | 41,731,413 | 3,361,627 | 8.1% | 78,740 | 106,956,139 | 8,615,732 | 8.1% | | | | | | | 4.47% | 2.5630 |
| | 1998 1999 | 43,940,449 48,097,051 | 7,714,265 19,963,200 | 17.6% 41.5% | 82,595 95,693 | 107,794,308 112,937,587 | 18,924,565 46,875,964 | 17.6% 41.5% | | | | | | | 4.47% 4.47% | 2.4532 |
| | 2000 | 55,598,283 | 16,502,514 | 29.7% | 111,642 | 124,959,751 | 37,090,176 | 29.7% | | | | | | | 4.47% | 2.2475 |
| | 2001 | 66,614,492 | 24,068,185 | 36.1% | 138,474 | 143,306,604 | 51,777,469 | 36.1% | | | | | | | 4.47% | 2.1513 |
| Historical Experience | 2002 2003 | 76,962,588 84,734,429 | 25,845,554 28,607,127 | 33.6% 33.8% | 154,041 161,514 | 158,476,862 167,007,058 | 53,219,655 56.383.127 | 33.6% 33.8% | | | | | | | 4.47% 4.47% | 2.0591 1.9709 |
| Exponence | 2004 | 93,549,570 | 29,417,990 | 31.4% | 177,688 | 176,484,037 | 55,497,910 | 31.4% | | | | | | | 4.47% | 1.8865 |
| | 2005 | 106,389,491 | 35,602,802 | 33.5% | 193,671 | 192,110,489 | 64,288,978 | 33.5% | | | | | | | 4.47% | 1.8057 |
| | 2006 2007 | 121,561,825 132.858.561 | 36,875,172 46,491,291 | 30.3% 35.0% | 207,903 211.594 | 210,105,912 219,795,765 | 63,734,578 76,913,289 | 30.3% 35.0% | | | | | | | 4.47% 4.47% | 1.7284 1.6544 |
| | 2008 | 138,403,077 | 54,716,840 | 39.5% | 211,070 | 219,161,487 | 86,644,201 | 39.5% | | | | | | | 4.47% | 1.5835 |
| | 2009 | 141,341,445 | 50,240,716 | 35.5% | 199,029 | 214,228,247 | 76,148,794 | 35.5% | | | | | | | 4.47% | 1.5157 |
| | 2010 2011 | 141,989,562 142,889,041 | 48,415,921 54,545,282 | 34.1% 38.2% | 193,053 187,553 | 205,992,943 198,419,139 | 70,239,938 75,742,883 | 34.1% 38.2% | | | | | | | 4.47% 4.47% | 1.4508 1.3886 |
| | 2012 | 142,013,255 | 62,091,189 | 43.7% | 178,477 | 188,756,638 | 82,528,381 | 43.7% | | | | | | | 4.47% | 1.3291 |
| | 2013 | 162,863,192 | 63,646,086 | 39.1% | 170,629 | 207,197,738 | 80,971,795 | 39.1% | | | | | | | 4.47% | 1.2722 |
| | 2014 2015 | 189,092,342 187,270,622 | 70,214,415 85,340,894 | 37.1% 45.6% | 165,636 160,865 | 230,263,300 218,277,590 | 85,502,156 99,471,046 | 37.1% 45.6% | | | | | | | 4.47% 4.47% | 1.2177 1.1656 |
| | 2016 | 187,556,911 | 95,493,013 | 50.9% | 156,155 | 209,247,985 | 106,536,839 | 50.9% | | | | | | | 4.47% | 1.1157 |
| | 2017 | 186,345,406 | 124,213,565 | 66.7% | 151,817 | 198,992,000 | 132,643,494 | 66.7% | | | | | | | 4.47% | 1.0679 |
| Projected | 2018 2019 | 180,833,741 179.854.405 | 140,540,754 134,979,417 | 77.7% 75.0% | 147,355 145,563 | 184,835,382 175,960,601 | 143,650,758 132.057.145 | 77.7% 75.0% | 1.4356 | 1.00000 | 0.0122 | 1.0000 | 0.988 | 0.995 | 4.47% 4.47% | 1.0221 0.9784 |
| Future | 2020 | 175,938,204 | 144,478,238 | 82.1% | 143,504 | 164,756,754 | 135,296,172 | 82.1% | 1.4683 | 1.00000 | 0.0141 | 0.9970 | 0.986 | 0.959 | 4.47% | 0.9364 |
| Experience | 2021 | 175,488,901 167,297,162 | 154,112,123 164.055.504 | 87.8% 98.1% | 140,772 138,972 | 157,297,363 143.532.113 | 138,136,546 140.750.942 | 87.8% 98.1% | 1.5335 1.5335 | 1.00000 | 0.0190 0.0128 | 0.9940 0.9910 | 0.981 | 0.958 | 4.47% 4.47% | 0.8963 |
| | 2022 | 159,637,336 | 174,962,472 | 109.6% | 137,689 | 131,094,264 | 143,679,274 | 109.6% | 1.5335 | 1.00000 | 0.0092 | 0.9910 | 0.991 | 0.954 | 4.47% | 0.8212 |
| | 2024 | 151,942,395 | 186,406,337 | 122.7% | 136,455 | 119,430,954 | 146,520,572 | 122.7% | 1.5335 | 1.00000 | 0.0090 | 0.9910 | 0.991 | 0.952 | 4.47% | 0.7860 |
| | 2025 2026 | 144,211,678 136,508,346 | 198,332,239 210,635,336 | 137.5% 154.3% | 135,266 134,103 | 108,499,336 98,304,765 | 149,217,570 151,686,382 | 137.5% 154.3% | 1.5335 1.5335 | 1.00000 | 0.0087 0.0086 | 0.9910 0.9910 | 0.991 0.991 | 0.949 0.947 | 4.47% 4.47% | 0.7524 0.7201 |
| | 2027 | 128,785,248 | 223,120,463 | 173.3% | 132,967 | 88,770,813 | 153,795,447 | 173.3% | 1.5335 | 1.00000 | 0.0085 | 0.9910 | 0.992 | 0.943 | 4.47% | 0.6893 |
| | 2028 | 121,096,040 | 235,829,573 | 194.7% | 131,855 | 79,895,576 | 155,593,359 | 194.7% | 1.5335 | 1.00000 | 0.0084 | 0.9910 | 0.992 | 0.940 | 4.47% | 0.6598 |
| | 2029 | 113,549,666 106.087.794 | 248,553,222 261,078,695 | 218.9% 246.1% | 130,762 129,666 | 71,707,960 64,126,220 | 156,964,307 157.812.593 | 218.9% 246.1% | 1.5335 1.5335 | 1.00000 | 0.0083 0.0084 | 0.9910 | 0.992 | 0.938 | 4.47% 4.47% | 0.6315 |
| | 2031 | 98,744,357 | 273,248,807 | 276.7% | 128,591 | 57,130,921 | 158,094,664 | 276.7% | 1.5335 | 1.00000 | 0.0083 | 0.9910 | 0.992 | 0.931 | 4.47% | 0.5786 |
| | 2032 | 91,569,924 | 284,790,005 295 492 706 | 311.0% | 127,476 126,359 | 50,710,805 | 157,714,780 156,632,952 | 311.0% 349.5% | 1.5335 1.5335 | 1.00000 | 0.0087 | 0.9910 | 0.991 | 0.927 | 4.47% 4.47% | 0.5538 0.5301 |
| | 2033 | 84,554,521 77,720,585 | 295,492,706 305,073,861 | 349.5% 392.5% | 126,359 | 44,820,139 39,433,120 | 156,632,952 | 349.5% 392.5% | 1.5335 | 1.00000 | 0.0088 | 0.9910 0.9910 | 0.991 0.991 | 0.923 0.919 | 4.47% 4.47% | 0.5301 |
| | 2035 | 71,131,998 | 313,154,882 | 440.2% | 123,961 | 34,544,492 | 152,080,309 | 440.2% | 1.5335 | 1.00000 | 0.0099 | 0.9910 | 0.990 | 0.915 | 4.47% | 0.4856 |
| | 2036 2037 | 64,781,918 58.695,266 | 319,537,100 324,346,688 | 493.3% 552.6% | 122,687 121,303 | 30,113,159 26,115,257 | 148,533,290 144,311,419 | 493.3% 552.6% | 1.5335 1.5335 | 1.00000 | 0.0103 0.0113 | 0.9910 0.9910 | 0.990 | 0.911 0.906 | 4.47% 4.47% | 0.4648 0.4449 |
| | 2037 | 52,948,233 | 324,346,688 | 618.2% | 121,303 | 26,115,257 | 139.396.898 | 618.2% | 1.5335 | 1.00000 | 0.0113 | 0.9910 | 0.989 | 0.906 | 4.47% | 0.4449 |
| | 2039 | 47,527,280 | 328,064,666 | 690.3% | 118,316 | 19,373,658 | 133,729,775 | 690.3% | 1.5335 | 1.00000 | 0.0128 | 0.9910 | 0.987 | 0.898 | 4.47% | 0.4076 |
| | 2040 2041 | 42,450,259 37,726,198 | 326,590,815 323,115,953 | 769.3% 856.5% | 116,573 114,771 | 16,562,951 14,089,291 | 127,426,965 120,671,438 | 769.3% 856.5% | 1.5335 1.5335 | 1.00000 | 0.0147 0.0155 | 0.9910 0.9910 | 0.985 0.985 | 0.893 0.889 | 4.47% 4.47% | 0.3902 0.3735 |
| | 2041 | 33,356,826 | 317,759,068 | 952.6% | 112,854 | 11,923,933 | 113,588,079 | 952.6% | 1.5335 | 1.00000 | 0.0167 | 0.9910 | 0.983 | 0.884 | 4.47% | 0.3575 |
| | 2043 | 29,341,343 | 310,568,075 | 1058.5% | 110,819 | 10,039,302 | 106,262,573 | 1058.5% | 1.5335 | 1.00000 | 0.0180 | 0.9910 | 0.982 | 0.880 | 4.47% | 0.3422 |
| | 2044 2045 | 25,675,132 22,349,260 | 301,697,805 291,295,922 | 1175.1% 1303.4% | 108,803 106,647 | 8,408,624 7.005.903 | 98,806,243 91,313,577 | 1175.1% 1303.4% | 1.5335 1.5335 | 1.00000 | 0.0182 0.0198 | 0.9910 0.9910 | 0.982 | 0.875 0.870 | 4.47% 4.47% | 0.3275 0.3135 |
| | 2045 | 19,351,554 | 279,559,873 | 1444.6% | 104,412 | 5,806,381 | 83,881,174 | 1444.6% | 1.5335 | 1.00000 | 0.0210 | 0.9910 | 0.979 | 0.866 | 4.47% | 0.3000 |
| | 2047 | 16,666,321 | 266,632,150 | 1599.8% | 102,117 | 4,786,501 | 76,575,685 | 1599.8% | 1.5335 | 1.00000 | 0.0220 | 0.9910 | 0.978 | 0.861 | 4.47% | 0.2872 |
| | 2048 2049 | 14,275,804 12,161,688 | 252,830,130 238,282,346 | 1771.0% 1959.3% | 99,591 96.933 | 3,924,349 3,199,998 | 69,501,779 62.697.132 | 1771.0% 1959.3% | 1.5335 1.5335 | 1.00000 | 0.0247 0.0267 | 0.9910 0.9910 | 0.975 0.973 | 0.857 0.852 | 4.47% 4.47% | 0.2749 0.2631 |
| | 2050 | 10,305,226 | 223,233,155 | 2166.2% | 94,059 | 2,595,387 | 56,221,603 | 2166.2% | 1.5335 | 1.00000 | 0.0296 | 0.9910 | 0.970 | 0.847 | 4.47% | 0.2519 |
| | 2051 | 8,685,198 | 207,936,296 | 2394.1% | 90,994 | 2,093,693 | 50,126,057 | 2394.1% | 1.5335 | 1.00000 | 0.0326 | 0.9910 | 0.967 | 0.843 | 4.47% | 0.2411 |
| | 2052 2053 | 7,280,078 6,068,406 | 192,537,910 177,200,085 | 2644.7% 2920.0% | 87,512 83,489 | 1,679,802 1,340,248 | 44,426,102 39,135,834 | 2644.7% 2920.0% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0383 0.0460 | 0.9910 0.9910 | 0.962 0.954 | 0.838 0.834 | 4.47% 4.47% | 0.2307 0.2209 |
| | 2054 | 5,031,073 | 162,153,911 | 3223.0% | 79,488 | 1,063,555 | 34,278,895 | 3223.0% | 1.5335 | 1.00000 | 0.0479 | 0.9910 | 0.952 | 0.829 | 4.47% | 0.2114 |
| | 2055 2056 | 4,149,324 3.403.846 | 147,505,960 133,385,289 | 3554.9% 3918.7% | 75,514 71,413 | 839,586 659,245 | 29,846,793 25.833.589 | 3554.9% 3918.7% | 1.5335 1.5335 | 1.00000 | 0.0500 0.0543 | 0.9910 0.9910 | 0.950 0.946 | 0.825 0.820 | 4.47% 4.47% | 0.2023 0.1937 |
| | 2056 | 3,403,846 2,777,028 | 133,385,289 | 3918.7% 4318.7% | 71,413 66,030 | 659,245 514,809 | 25,833,589 22,232,864 | 3918.7% 4318.7% | 1.5335 | 1.00000 | 0.0543 | 0.9910 | 0.946 | 0.820 | 4.47% 4.47% | 0.1937 |
| | 2058 | 2,252,967 | 107,270,435 | 4761.3% | 61,007 | 399,769 | 19,034,185 | 4761.3% | 1.5335 | 1.00000 | 0.0761 | 0.9910 | 0.924 | 0.811 | 4.47% | 0.1774 |
| | 2059 2060 | 1,817,711 1,458,643 | 95,390,466 84,335,430 | 5247.8% 5781.8% | 56,256 51,700 | 308,722 237,127 | 16,201,228 13,710,135 | 5247.8% 5781.8% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0779 0.0810 | 0.9910 0.9910 | 0.922 0.919 | 0.807 0.802 | 4.47% 4.47% | 0.1698 0.1626 |
| | 2061 | 1,458,643 | 74,163,480 | 6371.1% | 47,267 | 181,133 | 11,540,124 | 6371.1% | 1.5335 | 1.00000 | 0.0857 | 0.9910 | 0.914 | 0.798 | 4.47% | 0.1556 |
| | 2062 | 924,080 | 64,833,544 | 7016.0% | 42,865 | 137,632 | 9,656,258 | 7016.0% | 1.5335 | 1.00000 | 0.0931 | 0.9910 | 0.907 | 0.794 | 4.47% | 0.1489 |
| | 2063 2064 | 729,499 572,641 | 56,323,072 48,662,527 | 7720.8% 8497.9% | 38,725 34,717 | 103,997 78,139 | 8,029,420 6,640,200 | 7720.8% 8497.9% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0966 0.1035 | 0.9910 0.9910 | 0.903 0.896 | 0.789 0.785 | 4.47% 4.47% | 0.1426 0.1365 |
| | 2065 | 447,131 | 41,781,406 | 9344.3% | 30,828 | 58,400 | 5,457,055 | 9344.3% | 1.5335 | 1.00000 | 0.1035 | 0.9910 | 0.888 | 0.785 | 4.47% | 0.1306 |
| | 2066 | 347,316 | 35,669,471 | 10270.0% | 27,265 | 43,420 | 4,459,238 | 10270.0% | 1.5335 | 1.00000 | 0.1156 | 0.9910 | 0.884 | 0.777 | 4.47% | 0.1250 |
| | 2067 2068 | 268,366 206,274 | 30,270,872 25,537,652 | 11279.7% 12380.5% | 23,886 20.707 | 32,113 23.626 | 3,622,243 2,924,976 | 11279.7% 12380.5% | 1.5335 1.5335 | 1.00000 | 0.1239 0.1331 | 0.9910 0.9910 | 0.876 0.867 | 0.773 0.769 | 4.47% 4.47% | 0.1197 0.1145 |
| | 2069 | 157,738 | 21,397,348 | 13565.1% | 17,909 | 17,293 | 2,345,795 | 13565.1% | 1.5335 | 1.00000 | 0.1351 | 0.9910 | 0.865 | 0.765 | 4.47% | 0.1096 |
| | 2070+ | 414,969 | 77,276,533 | 18622.2% | 15,294 | 43,545 | 8,108,984 | 18622.2% | 1.5335 | 1.00000 | 0.1460 | 0.9910 | 0.854 | N/A | 4.47% | 0.1049 |
| | Past | 2,820,611,603 | 1,139,579,759 | 40.4% | 3,864,233 | 4,426,924,751 | 1,617,956,915 | 36.5% | | | | | | | | |
| | Future | 2,719,887,224 | 10,142,700,348 | 372.9% | 4,941,767 | 1,826,365,954 | 4,471,346,049 | 244.8% | | | | | | | | |
| | Lifetime | 5,540,498,827 | 11,282,280,107 | 203.6% | 8,806,000 | 6,253,290,705 | 6,089,302,964 | 97.4% | | | | | | | | |

Lifetime 5.540,498.827 11.282,280.107 203.6% 8,806.000 6,253,290,705 6,089,302,964 97.4% Note:

- The premiums shown in this exhibit are normalized to reflect prior rate inreases authorized by Pennsylvania rather than that authorized by other states.
- The projections are based on the assumptions derived using experience data through 6/30/2018.

The current requested increases of 6.82% is assumed to be implemented starting 9/1/2020.

Exhibit II-A Demonstration that Lifetime Incurred Claims with Requested Increase are Not Less than Lifetime Earned Premium with Prescribed Factors

| Accumulated value of initial earned premium | 4,075,140,483 | х | 58% | = | 2,363,581,480 |
|---|------------------------------|---|-----|---|--------------------------------|
| 2a Accumulated value of earned premium 2b Accumulated value of prior premium rate schedule increases (2a-1) | 4,426,924,751 351,784,268 | х | 85% | = | 299,016,628 |
| 3 Present value of future projected initial earned premium | 1,212,375,049 | х | 58% | = | 703,177,529 |
| 4a Present value of future projected premium 4b Present value of future projected premium in excess of the projected initial earned premiums (4a-3) | 1,826,365,954 613,990,905 | х | 85% | = | 521,892,269 |
| 5 Lifetime Earned Premium Times Prescribed Factor: Sum of 1, 2b, 3, and 4b | | | | | 3,887,667,906 |
| 6a Accumulated value of incurred claims without the inclusion of active life reserves 6b Present value of future projected incurred claims without the inclusion of active life reserves | | | | | 1,617,956,915 4,471,346,049 |
| 7 Lifetime Incurred Claims with Rate Increase: Sum of 6a and 6b | | | | | 6,089,302,964 |
| 8 Test: 7 is not less than 5 | | | | | TRUE |
| | | | | | |

Exhibit I-B Metropolitan Life Insurance Company Pennsylvania Experience Projections (Premium Include Prior Authorized Increases)

| | | | | Loss Ra | ntio Demonst | ration | | | Facto | ors Derived fr | om Projected Values | for Illustrati | ive Purposes Or | nlv | Interest Ra | te Factors |
|----------------------|--------------|------------------------|--------------------------|----------------------|----------------|--------------------------|------------------------|----------------------|--------------------------|----------------------|---------------------|-------------------------|-----------------|------------------------|----------------------------|--------------------------|
| | Calendar | Earned W | ithout Interest | Loss | Life | Earned | With Interest | Loss | Premium Rate Increase | | Policy | Persistency Policy | Factors | Premium | Calendar Year Effective | Mid-Year Disc / Accum |
| | Year | Premium | Incurred Claims | Ratio | Years | Premium | Incurred Claims | Ratio | Factor | Benefit Downgrade | | Shock Lapse | | Premium Persistency | Int Rate | Factor |
| | 1989 1990 | - | - | N/A N/A | | - | - | N/A N/A | | | | | | | 4.47% 4.47% | 3.6378 3.4819 |
| | 1990 | | | N/A N/A | | | | N/A N/A | | | | | | | 4.47% | 3.4819 |
| | 1992 | - | - | N/A | | - | - | N/A | | | | | | | 4.47% | 3.1901 |
| | 1993 1994 | : | | N/A N/A | | | : | N/A N/A | | | | | | | 4.47% 4.47% | 3.0534 2.9226 |
| | 1995 | - | | N/A | - | - | | N/A | | | | | | | 4.47% | 2.7975 |
| | 1996 1997 | - | - | N/A N/A | - | - | - | N/A N/A | | | | | | | 4.47% 4.47% | 2.6777 2.5630 |
| | 1998 | | | N/A | | | | N/A | | | | | | | 4.47% | 2.4532 |
| | 1999 | 71,094 | | 0.0% | 324 | 166,936 | | 0.0% | | | | | | | 4.47% | 2.3481 |
| | 2000 2001 | 467,489 833,510 | 1,025 408.469 | 0.2% 49.0% | 1,468 1.825 | 1,050,703 1,793,116 | 2,304 878.733 | 0.2% 49.0% | | | | | | | 4.47% 4.47% | 2.2475 2.1513 |
| Historical | 2002 | 1,010,600 | 33,979 | 3.4% | 2,811 | 2,080,968 | 69,968 | 3.4% | | | | | | | 4.47% | 2.0591 |
| Experience | 2003 2004 | 1,727,834 2,659,254 | 102,414 510,600 | 5.9% 19.2% | 4,005 5,075 | 3,405,469 5,016,761 | 201,853 963,262 | 5.9% 19.2% | | | | | | | 4.47% 4.47% | 1.9709 1.8865 |
| | 2005 | 5,407,385 | 1,025,526 | 19.0% | 7,965 | 9,764,266 | 1,851,821 | 19.0% | | | | | | | 4.47% | 1.8057 |
| | 2006 | 8,054,419 | 1,721,859 | 21.4% | 8,115 | 13,921,156 | 2,976,039 | 21.4% | | | | | | | 4.47% | 1.7284 |
| | 2007 2008 | 8,002,695 8,468,091 | 2,737,692 1,991,171 | 34.2% 23.5% | 8,046 8,660 | 13,239,330 13,409,236 | 4,529,126 3,153,022 | 34.2% 23.5% | | | | | | | 4.47% 4.47% | 1.6544 1.5835 |
| | 2009 | 8,649,057 | 4,830,675 | 55.9% | 8,358 | 13,109,193 | 7,321,752 | 55.9% | | | | | | | 4.47% | 1.5157 |
| | 2010 2011 | 8,397,807 8,220,240 | 1,575,434 1,879,657 | 18.8% 22.9% | 8,236 7,927 | 12,183,213 11,414,822 | 2,285,579 2,610,137 | 18.8% 22.9% | | | | | | | 4.47% 4.47% | 1.4508 1.3886 |
| | 2012 | 7,831,661 | 2,996,055 | 38.3% | 7,502 | 10,409,437 | 3,982,201 | 38.3% | | | | | | | 4.47% | 1.3291 |
| | 2013 2014 | 8,670,849 9,869,254 | 2,599,794 3,042,819 | 30.0% 30.8% | 7,032 6,822 | 11,031,224 12,018,081 | 3,307,508 3,705,330 | 30.0% 30.8% | | | 1 | | | | 4.47% 4.47% | 1.2722 1.2177 |
| | 2014 | 9,869,254 9,562,284 | 3,042,819 2,306,183 | 30.8% 24.1% | 6,822 | 12,018,081 | 3,705,330 2,688,025 | 30.8% 24.1% | | | 1 | | | | 4.47% | 1.2177 |
| | 2016 | 9,351,568 | 3,319,052 | 35.5% | 6,482 | 10,433,083 | 3,702,902 | 35.5% | | | 1 | | | | 4.47% | 1.1157 |
| | 2017 2018 | 9,183,735 8,834,882 | 4,147,150 3,140,941 | 45.2% 35.6% | 6,366 6,230 | 9,807,002 9,030,387 | 4,428,602 3,210,446 | 45.2% 35.6% | | | | | | | 4.47% 4.47% | 1.0679 1.0221 |
| Projected | 2019 | 8,699,916 | 5,131,721 | 59.0% | 6,149 | 8,511,564 | 5,020,620 | 59.0% | 1.4356 | N/A | 0.0131 | N/A | 0.987 | 0.985 | 4.47% | 0.9784 |
| Future Experience | 2020 2021 | 8,318,096 7,940,325 | 5,505,550 5,909,952 | 66.2% 74.4% | 6,075 5,973 | 7,789,454 7,117,215 | 5,155,654 5,297,315 | 66.2% 74.4% | 1.4356 1.4356 | N/A N/A | 0.0119 0.0169 | N/A N/A | 0.988 | 0.956 0.955 | 4.47% 4.47% | 0.9364 0.8963 |
| Experience | 2022 | 7,560,271 | 6,336,830 | 83.8% | 5,911 | 6,486,312 | 5,436,665 | 83.8% | 1.4356 | N/A | 0.0103 | N/A | 0.990 | 0.952 | 4.47% | 0.8579 |
| | 2023 | 7,184,617 | 6,805,740 | 94.7% | 5,855 | 5,900,012 | 5,588,877 | 94.7% | 1.4356 | N/A | 0.0096 | N/A | 0.990 | 0.950 | 4.47% | 0.8212 |
| | 2024 2025 | 6,809,792 6,434,126 | 7,309,505 7,837,834 | 107.3% 121.8% | 5,800 5,747 | 5,352,686 4,840,789 | 5,745,474 5.896.886 | 107.3% 121.8% | 1.4356 1.4356 | N/A N/A | 0.0094 0.0091 | N/A N/A | 0.991 0.991 | 0.948 0.945 | 4.47% 4.47% | 0.7860 0.7524 |
| | 2026 | 6,064,942 | 8,404,952 | 138.6% | 5,696 | 4,367,591 | 6,052,720 | 138.6% | 1.4356 | N/A | 0.0089 | N/A | 0.991 | 0.943 | 4.47% | 0.7201 |
| | 2027 2028 | 5,703,221 5,351,349 | 9,008,492 9,648,933 | 158.0% 180.3% | 5,646 5,597 | 3,931,192 3,530,662 | 6,209,494 6,366,080 | 158.0% 180.3% | 1.4356 1.4356 | N/A N/A | 0.0088 0.0087 | N/A N/A | 0.991 0.991 | 0.940 0.938 | 4.47% 4.47% | 0.6893 0.6598 |
| | 2029 | 5,009,499 | 10,315,846 | 205.9% | 5,549 | 3,163,558 | 6,514,579 | 205.9% | 1.4356 | N/A | 0.0085 | N/A | 0.992 | 0.936 | 4.47% | 0.6315 |
| | 2030 | 4,675,896 | 10,993,163 | 235.1% 268.3% | 5,499 | 2,826,409 | 6,644,968 | 235.1% 268.3% | 1.4356 | N/A N/A | 0.0090 | N/A N/A | 0.991 | 0.933 | 4.47% 4.47% | 0.6045 0.5786 |
| | 2031 | 4,350,735 4,034,431 | 11,674,061 12,338,726 | 268.3% 305.8% | 5,452 5,401 | 2,517,222 2,234,240 | 6,754,309 6,833,103 | 268.3% 305.8% | 1.4356 1.4356 | N/A N/A | 0.0086 | N/A N/A | 0.991 | 0.930 | 4.47% 4.47% | 0.5786 |
| | 2033 | 3,727,094 | 12,987,309 | 348.5% | 5,356 | 1,975,635 | 6,884,233 | 348.5% | 1.4356 | N/A | 0.0083 | N/A | 0.992 | 0.924 | 4.47% | 0.5301 |
| | 2034 2035 | 3,429,604 3,142,201 | 13,601,947 14,162,346 | 396.6% 450.7% | 5,300 5,247 | 1,740,079 1,525,976 | 6,901,224 6,877,791 | 396.6% 450.7% | 1.4356 1.4356 | N/A N/A | 0.0104 0.0100 | N/A N/A | 0.990 0.990 | 0.920 0.916 | 4.47% 4.47% | 0.5074 0.4856 |
| | 2036 | 2,865,109 | 14,653,175 | 511.4% | 5,195 | 1,331,814 | 6,811,366 | 511.4% | 1.4356 | N/A | 0.0099 | N/A | 0.990 | 0.912 | 4.47% | 0.4648 |
| | 2037 2038 | 2,599,766 2,347,307 | 15,064,809 15,383,042 | 579.5% 655.3% | 5,142 5,086 | 1,156,713 999,654 | 6,702,778 6,551,220 | 579.5% 655.3% | 1.4356 1.4356 | N/A N/A | 0.0103 0.0109 | N/A N/A | 0.990 0.989 | 0.907 0.903 | 4.47% 4.47% | 0.4449 0.4259 |
| | 2039 | 2,108,382 | 15,595,462 | 739.7% | 5,086 | 859,445 | 6,357,215 | 739.7% | 1.4356 | N/A | 0.0109 | N/A | 0.989 | 0.898 | 4.47% | 0.4239 |
| | 2040 | 1,883,918 | 15,681,511 | 832.4% | 4,967 | 735,054 | 6,118,504 | 832.4% | 1.4356 | N/A | 0.0121 | N/A | 0.988 | 0.894 | 4.47% | 0.3902 |
| | 2041 2042 | 1,674,421 1,480,171 | 15,654,992 15,521,331 | 934.9% 1048.6% | 4,905 4,841 | 625,332 529,111 | 5,846,540 5,548,349 | 934.9% 1048.6% | 1.4356 1.4356 | N/A N/A | 0.0125 0.0130 | N/A N/A | 0.987 0.987 | 0.889 0.884 | 4.47% 4.47% | 0.3735 0.3575 |
| | 2043 | 1,301,194 | 15,290,357 | 1175.1% | 4,769 | 445,211 | 5,231,680 | 1175.1% | 1.4356 | N/A | 0.0149 | N/A | 0.985 | 0.879 | 4.47% | 0.3422 |
| | 2044 2045 | 1,137,420 988.775 | 14,955,059 14,521,770 | 1314.8% 1468.7% | 4,702 4.628 | 372,506 309,955 | 4,897,792 4.552.191 | 1314.8% 1468.7% | 1.4356 1.4356 | N/A N/A | 0.0140 0.0159 | N/A N/A | 0.986 0.984 | 0.874 0.869 | 4.47% 4.47% | 0.3275 0.3135 |
| | 2046 | 854,733 | 13,990,430 | 1636.8% | 4,559 | 256,460 | 4,197,790 | 1636.8% | 1.4356 | N/A | 0.0149 | N/A | 0.985 | 0.864 | 4.47% | 0.3000 |
| | 2047 2048 | 734,726 628.120 | 13,353,717 12,687,704 | 1817.5% 2019.9% | 4,487 4,401 | 211,010 172,667 | 3,835,134 3,487,788 | 1817.5% 2019.9% | 1.4356 1.4356 | N/A N/A | 0.0158 0.0191 | N/A N/A | 0.984 0.981 | 0.860 0.855 | 4.47% 4.47% | 0.2872 0.2749 |
| | 2048 | 628,120 533,968 | 12,687,704 | 2019.9% 2240.4% | 4,401 4,296 | 1/2,667 | 3,487,788 3,147,733 | 2019.9% | 1.4356 | N/A N/A | 0.0191 | N/A N/A | 0.981 | 0.855 | 4.47% 4.47% | 0.2749 |
| | 2050 | 451,426 | 11,210,924 | 2483.4% | 4,183 | 113,692 | 2,823,488 | 2483.4% | 1.4356 | N/A | 0.0265 | N/A N/A | 0.973 | 0.845 | 4.47% | 0.2519 |
| | 2051 2052 | 379,516 317,283 | 10,435,872 9,659,574 | 2749.8% 3044.5% | 4,068 3,939 | 91,488 73,210 | 2,515,718 2,228,845 | 2749.8% 3044.5% | 1.4356 1.4356 | N/A N/A | 0.0273 0.0318 | N/A N/A | 0.973 0.968 | 0.841 0.836 | 4.47% 4.47% | 0.2411 0.2307 |
| | 2053 | 263,772 | 8,889,437 | 3370.1% | 3,798 | 58,256 | 1,963,292 | 3370.1% | 1.4356 | N/A | 0.0359 | N/A | 0.964 | 0.831 | 4.47% | 0.2209 |
| | 2054 2055 | 218,030 179,235 | 8,123,088 7,372,068 | 3725.7% 4113.1% | 3,649 3,502 | 46,091 36,267 | 1,717,199 1,491,686 | 3725.7% 4113.1% | 1.4356 1.4356 | N/A N/A | 0.0393 0.0402 | N/A N/A | 0.961 | 0.827 0.822 | 4.47% 4.47% | 0.2114 0.2023 |
| | 2056 | 146,523 | 6,644,566 | 4534.8% | 3,323 | 28,378 | 1,286,896 | 4534.8% | 1.4356 | N/A | 0.0511 | N/A | 0.949 | 0.817 | 4.47% | 0.1937 |
| | 2057 2058 | 119,099 96,221 | 5,949,066 5,296,428 | 4995.1% 5504.4% | 3,099 2,844 | 22,079 17.074 | 1,102,845 939.804 | 4995.1% 5504.4% | 1.4356 1.4356 | N/A N/A | 0.0672 0.0825 | N/A N/A | 0.933 0.918 | 0.813 0.808 | 4.47% 4.47% | 0.1854 0.1774 |
| | 2058 | 96,221 77,244 | 5,296,428 4,678,291 | 5504.4% 6056.5% | 2,844 | 17,074 | 939,804 794,566 | 5504.4% 6056.5% | 1.4356 | N/A N/A | 0.0825 | N/A N/A | 0.918 | 0.808 | 4.47% 4.47% | 0.1774 |
| | 2060 | 61,651 | 4,104,144 | 6657.1% | 2,398 | 10,022 | 667,197 | 6657.1% | 1.4356 | N/A | 0.0817 | N/A | 0.918 | 0.798 | 4.47% | 0.1626 |
| | 2061 2062 | 48,879 38,555 | 3,578,783 3,095,976 | 7321.8% 8030.1% | 2,183 1,976 | 7,606 5,742 | 556,872 461,112 | 7321.8% 8030.1% | 1.4356 1.4356 | N/A N/A | 0.0896 0.0949 | N/A N/A | 0.910 0.905 | 0.793 0.789 | 4.47% 4.47% | 0.1556 0.1489 |
| | 2063 | 30,217 | 2,658,039 | 8796.6% | 1,764 | 4,308 | 378,930 | 8796.6% | 1.4356 | N/A | 0.1073 | N/A | 0.893 | 0.784 | 4.47% | 0.1426 |
| | 2064 2065 | 23,528 18,198 | 2,269,050 1,929,535 | 9643.8% 10603.2% | 1,564 1,362 | 3,211 2,377 | 309,621 252,016 | 9643.8% 10603.2% | 1.4356 1.4356 | N/A N/A | 0.1132 0.1296 | N/A N/A | 0.887 | 0.779 0.773 | 4.47% 4.47% | 0.1365 0.1306 |
| | 2066 | 13,988 | 1,633,973 | 11681.0% | 1,193 | 1,749 | 204,272 | 11681.0% | 1.4356 | N/A | 0.1235 | N/A | 0.876 | 0.769 | 4.47% | 0.1250 |
| | 2067 | 10,677 | 1,369,527 | 12826.5% | 1,053 | 1,278 | 163,879 | 12826.5% | 1.4356 | N/A | 0.1180 | N/A | 0.882 | 0.763 | 4.47% | 0.1197 |
| | 2068 2069 | 8,093 6,086 | 1,145,286 944,794 | 14151.2% 15524.2% | 901 781 | 927 667 | 131,176 103,578 | 14151.2% 15524.2% | 1.4356 1.4356 | N/A N/A | 0.1438 0.1334 | N/A N/A | 0.856 0.867 | 0.758 0.752 | 4.47% 4.47% | 0.1145 0.1096 |
| | 2070+ | 14,712 | 3,262,004 | 22172.8% | 678 | 1,544 | 342,297 | 22172.8% | 1.4356 | N/A | 0.1324 | N/A | 0.868 | N/A | 4.47% | 0.1049 |
| | Past | 125,273,708 | 38.370.495 | 30.6% | 119,917 | 174,429,924 | 51.868.609 | 29.7% | | | | | | | | |
| | Future | 122,097,058 | 466,539,741 | 382.1% | 214,125 | 82,495,112 | 197,901,364 | 239.9% | | | | | | | | |
| 1 | Lifetime | 247,370,766 | 504,910,235 | 204.1% | 334,042 | 256,925,036 | 249,769,973 | 97.2% | | | | | | | | |

[|] Lifetime | 21,000,000
Note:
- The premiums shown in this exhibit reflect prior rate inreases authorized by Pennsylvania.
- The projections are based on the assumptions derived using experience data through 6/30/2018.

Exhibit I-B Metropolitan Life Insurance Company Pennsylvania Experience Projections (Premium include Prior Authorized Increases) and With 6.83% Future Increase

| | | | | Loss Ra | itio Demonst | ration | | | Facto | ors Derived fr | Only | Interest Ra | ite Factors | | | |
|---------------------|--------------|------------------------|-----------------------------|----------------------|----------------|--------------------------|---------------------------|----------------------|--------------------------|--------------------|-------------------|-----------------------|----------------|----------------|----------------------------|--------------------------|
| | Calendar | Earned W | ithout Interest Incurred | Loss | Life | Earned | With Interest Incurred | Loss | Premium Rate Increase | Benefit | Policy | Persistency Policy | | Premium | Calendar Year Effective | Mid-Year Disc / Accum |
| | Year | Premium | Claims | Ratio | Years | Premium | Claims | Ratio | Factor | Downgrade | Lapse & Mortality | Shock Lapse | Persistency | Persistency | Int Rate | Factor |
| | 1989 1990 | - | - | N/A N/A | | - | - | N/A N/A | | | | | | | 4.47% 4.47% | 3.6378 3.4819 |
| | 1991 | | | N/A | | | | N/A | | | | | | | 4.47% | 3.3328 |
| | 1992 | | - | N/A | - | - | | N/A | | | | | | | 4.47% | 3.1901 |
| | 1993 1994 | | | N/A N/A | | | | N/A N/A | | | | | | | 4.47% 4.47% | 3.0534 2.9226 |
| | 1995 | - | - | N/A | - | | - | N/A | | | | | | | 4.47% | 2.7975 |
| | 1996 1997 | - | - | N/A N/A | | | | N/A N/A | | | | | | | 4.47% 4.47% | 2.6777 2.5630 |
| | 1998 | | - | N/A | | - | | N/A | | | | | | | 4.47% | 2.4532 |
| | 1999 2000 | 71,094 467,489 | 1.025 | 0.0% | 324 1.468 | 166,936 1.050,703 | 2.304 | 0.0% | | | | | | | 4.47% 4.47% | 2.3481 2.2475 |
| | 2000 | 833,510 | 408,469 | 49.0% | 1,825 | 1,793,116 | 878,733 | 49.0% | | | | | | | 4.47% | 2.1513 |
| Historical | 2002 2003 | 1,010,600 1,727,834 | 33,979 102.414 | 3.4% 5.9% | 2,811 4.005 | 2,080,968 3,405,469 | 69,968 201,853 | 3.4% 5.9% | | | | | | | 4.47% 4.47% | 2.0591 1.9709 |
| Experience | 2003 | 2,659,254 | 510,600 | 19.2% | 5,075 | 5,016,761 | 963,262 | 19.2% | | | | | | | 4.47% | 1.8865 |
| | 2005 | 5,407,385 | 1,025,526 | 19.0% | 7,965 | 9,764,266 | 1,851,821 | 19.0% | | | | | | | 4.47% | 1.8057 |
| | 2006 2007 | 8,054,419 8,002,695 | 1,721,859 2,737,692 | 21.4% 34.2% | 8,115 8,046 | 13,921,156 13,239,330 | 2,976,039 4,529,126 | 21.4% 34.2% | | | | | | | 4.47% 4.47% | 1.7284 1.6544 |
| | 2008 | 8,468,091 | 1,991,171 | 23.5% | 8,660 | 13,409,236 | 3,153,022 | 23.5% | | | | | | | 4.47% | 1.5835 |
| | 2009 2010 | 8,649,057 8,397,807 | 4,830,675 1,575,434 | 55.9% 18.8% | 8,358 8,236 | 13,109,193 12,183,213 | 7,321,752 2,285,579 | 55.9% 18.8% | | | | | | | 4.47% 4.47% | 1.5157 1.4508 |
| | 2011 | 8,220,240 | 1,879,657 | 22.9% | 7,927 | 11,414,822 | 2,610,137 | 22.9% | | | 1 | | | | 4.47% | 1.3886 |
| | 2012 | 7,831,661 | 2,996,055 | 38.3% | 7,502 | 10,409,437 | 3,982,201 | 38.3% | | | | | | | 4.47% | 1.3291 |
| | 2013 2014 | 8,670,849 9,869,254 | 2,599,794 3,042,819 | 30.0% 30.8% | 7,032 6,822 | 11,031,224 12,018,081 | 3,307,508 3,705,330 | 30.0% 30.8% | | | 1 | | | | 4.47% 4.47% | 1.2722 1.2177 |
| | 2015 | 9,562,284 | 2,306,183 | 24.1% | 6,668 | 11,145,540 | 2,688,025 | 24.1% | | | 1 | | | | 4.47% | 1.1656 |
| | 2016 2017 | 9,351,568 9,183,735 | 3,319,052 4,147,150 | 35.5% 45.2% | 6,482 6,366 | 10,433,083 9,807,002 | 3,702,902 4,428,602 | 35.5% 45.2% | | | 1 | | | | 4.47% 4.47% | 1.1157 1.0679 |
| | 2018 | 8,834,882 | 3,140,941 | 35.6% | 6,230 | 9,030,387 | 3,210,446 | 35.6% | | | | | | | 4.47% | 1.0221 |
| Projected Future | 2019 2020 | 8,699,916 8,481,672 | 5,131,721 5.489.033 | 59.0% 64.7% | 6,149 6.057 | 8,511,564 7,942,634 | 5,020,620 5.140.187 | 59.0% 64.7% | 1.4356 1.4683 | 1.00000 | 0.0131 0.0149 | 1.0000 0.9970 | 0.987 | 0.985 | 4.47% 4.47% | 0.9784 0.9364 |
| Experience | 2021 | 8,430,964 | 5,874,493 | 69.7% | 5,937 | 7,556,993 | 5,265,531 | 69.7% | 1.5335 | 1.00000 | 0.0198 | 0.9940 | 0.980 | 0.955 | 4.47% | 0.8963 |
| | 2022 2023 | 8,003,198 7,605,537 | 6,279,798 6,744,488 | 78.5% 88.7% | 5,858 5.802 | 6,866,321 6,245,671 | 5,387,735 5.538.577 | 78.5% 88.7% | 1.5335 1.5335 | 1.00000 | 0.0132 0.0096 | 0.9910 0.9910 | 0.987 0.990 | 0.952 0.950 | 4.47% 4.47% | 0.8579 0.8212 |
| | 2023 | 7,605,537 | 7,243,719 | 100.5% | 5,802 | 5,666,280 | 5,693,765 | 100.5% | 1.5335 | 1.00000 | 0.0096 | 0.9910 | 0.990 | 0.950 | 4.47% | 0.8212 |
| | 2025 | 6,811,077 | 7,767,294 | 114.0% | 5,695 | 5,124,393 | 5,843,814 | 114.0% | 1.5335 | 1.00000 | 0.0091 | 0.9910 | 0.991 | 0.945 | 4.47% | 0.7524 |
| | 2026 2027 | 6,420,264 6,037,351 | 8,329,308 8,927,416 | 129.7% 147.9% | 5,644 5,595 | 4,623,472 4.161,506 | 5,998,246 6,153,608 | 129.7% 147.9% | 1.5335 1.5335 | 1.00000 | 0.0089 0.0088 | 0.9910 0.9910 | 0.991 0.991 | 0.943 0.940 | 4.47% 4.47% | 0.7201 0.6893 |
| | 2028 | 5,664,865 | 9,562,093 | 168.8% | 5,546 | 3,737,510 | 6,308,785 | 168.8% | 1.5335 | 1.00000 | 0.0087 | 0.9910 | 0.991 | 0.938 | 4.47% | 0.6598 |
| | 2029 | 5,302,986 4,949,839 | 10,223,003 10.894,224 | 192.8% 220.1% | 5,499 5.450 | 3,348,899 2.991,998 | 6,455,948 6,585,163 | 192.8% 220.1% | 1.5335 1.5335 | 1.00000 | 0.0085 0.0090 | 0.9910 0.9910 | 0.992 | 0.936 | 4.47% 4.47% | 0.6315 0.6045 |
| | 2031 | 4,605,628 | 11,568,994 | 251.2% | 5,403 | 2,664,697 | 6,693,520 | 251.2% | 1.5335 | 1.00000 | 0.0086 | 0.9910 | 0.991 | 0.930 | 4.47% | 0.5786 |
| | 2032 2033 | 4,270,793 3,945,451 | 12,227,678 12,870,423 | 286.3% 326.2% | 5,352 5,308 | 2,365,136 2.091,380 | 6,771,605 6.822,274 | 286.3% 326.2% | 1.5335 1.5335 | 1.00000 | 0.0094 0.0083 | 0.9910 0.9910 | 0.991 0.992 | 0.927 0.924 | 4.47% 4.47% | 0.5538 0.5301 |
| | 2034 | 3,630,531 | 13,479,529 | 371.3% | 5,253 | 1,842,024 | 6,839,113 | 371.3% | 1.5335 | 1.00000 | 0.0104 | 0.9910 | 0.990 | 0.920 | 4.47% | 0.5074 |
| | 2035 2036 | 3,326,290 3,032,965 | 14,034,885 14,521,296 | 421.9% 478.8% | 5,200 5,149 | 1,615,377 1,409,840 | 6,815,891 6,750,064 | 421.9% 478.8% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0100 0.0099 | 0.9910 0.9910 | 0.990 0.990 | 0.916 0.912 | 4.47% 4.47% | 0.4856 0.4648 |
| | 2037 | 2,752,076 | 14,929,226 | 542.5% | 5,096 | 1,224,480 | 6,642,453 | 542.5% | 1.5335 | 1.00000 | 0.0103 | 0.9910 | 0.990 | 0.907 | 4.47% | 0.4449 |
| | 2038 | 2,484,827 | 15,244,595 | 613.5% 692.5% | 5,040 4,983 | 1,058,220 | 6,492,259 | 613.5% 692.5% | 1.5335 1.5335 | 1.00000 | 0.0109 | 0.9910 | 0.989 | 0.903 | 4.47% 4.47% | 0.4259 0.4076 |
| | 2039 | 2,231,904 1,994,290 | 15,455,103 15,540,377 | 779.2% | 4,983 | 909,796 778,118 | 6,300,000 6,063,438 | 779.2% | 1.5335 | 1.00000 | 0.0113 0.0121 | 0.9910 | 0.989 | 0.898 | 4.47% | 0.4076 |
| | 2041 | 1,772,519 | 15,514,097 | 875.3% | 4,861 | 661,968 | 5,793,921 | 875.3% | 1.5335 | 1.00000 | 0.0125 | 0.9910 | 0.987 | 0.889 | 4.47% | 0.3735 |
| | 2042 2043 | 1,566,889 1,377,426 | 15,381,639 15,152,744 | 981.7% 1100.1% | 4,798 4,726 | 560,110 471,294 | 5,498,414 5,184,594 | 981.7% 1100.1% | 1.5335 1.5335 | 1.00000 | 0.0130 0.0149 | 0.9910 0.9910 | 0.987 0.985 | 0.884 | 4.47% 4.47% | 0.3575 0.3422 |
| | 2044 | 1,204,057 | 14,820,463 | 1230.9% | 4,660 | 394,330 | 4,853,712 | 1230.9% | 1.5335 | 1.00000 | 0.0140 | 0.9910 | 0.986 | 0.874 | 4.47% | 0.3275 |
| | 2045 2046 | 1,046,704 904,808 | 14,391,074 13,864,516 | 1374.9% 1532.3% | 4,586 4,517 | 328,114 271,485 | 4,511,222 4,160,010 | 1374.9% 1532.3% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0159 0.0149 | 0.9910 0.9910 | 0.984 0.985 | 0.869 0.864 | 4.47% 4.47% | 0.3135 0.3000 |
| | 2047 | 777,771 | 13,233,533 | 1701.5% | 4,446 | 223,373 | 3,800,618 | 1701.5% | 1.5335 | 1.00000 | 0.0158 | 0.9910 | 0.984 | 0.860 | 4.47% | 0.2872 |
| | 2048 | 664,919 565,251 | 12,573,514 11,855,386 | 1891.0% 2097.4% | 4,361 4.258 | 182,783 148,730 | 3,456,398 3,119,403 | 1891.0% 2097.4% | 1.5335 1.5335 | 1.00000 | 0.0191 0.0238 | 0.9910 | 0.981 | 0.855 | 4.47% 4.47% | 0.2749 |
| | 2050 | 477,873 | 11,110,025 | 2324.9% | 4,145 | 120,353 | 2,798,076 | 2324.9% | 1.5335 | 1.00000 | 0.0265 | 0.9910 | 0.973 | 0.845 | 4.47% | 0.2519 |
| | 2051 2052 | 401,750 335.872 | 10,341,949 9,572,637 | 2574.2% 2850.1% | 4,032 3,904 | 96,848 77,499 | 2,493,077 2,208,786 | 2574.2% 2850.1% | 1.5335 1.5335 | 1.00000 | 0.0273 0.0318 | 0.9910 0.9910 | 0.973 0.968 | 0.841 0.836 | 4.47% 4.47% | 0.2411 0.2307 |
| | 2053 | 279,226 | 8,809,432 | 3155.0% | 3,764 | 61,669 | 1,945,623 | 3155.0% | 1.5335 | 1.00000 | 0.0359 | 0.9910 | 0.964 | 0.831 | 4.47% | 0.2209 |
| | 2054 2055 | 230,803 | 8,049,980 | 3487.8% | 3,616 | 48,791 | 1,701,744 | 3487.8% | 1.5335 | 1.00000 | 0.0393 | 0.9910 | 0.961 | 0.827 | 4.47% | 0.2114 |
| | 2055 2056 | 189,736 155,108 | 7,305,719 6,584,765 | 3850.5% 4245.3% | 3,470 3,293 | 38,392 30,041 | 1,478,261 1,275,314 | 3850.5% 4245.3% | 1.5335 1.5335 | 1.00000 | 0.0402 0.0511 | 0.9910 0.9910 | 0.960 0.949 | 0.822 0.817 | 4.47% 4.47% | 0.2023 0.1937 |
| | 2057 | 126,076 | 5,895,524 | 4676.2% | 3,072 | 23,372 | 1,092,919 | 4676.2% | 1.5335 | 1.00000 | 0.0672 | 0.9910 | 0.933 | 0.813 | 4.47% | 0.1854 |
| | 2058 2059 | 101,859 81.770 | 5,248,760 4.636.186 | 5153.0% 5669.8% | 2,818 2.588 | 18,074 13,888 | 931,346 787,415 | 5153.0% 5669.8% | 1.5335 1.5335 | 1.00000 | 0.0825 0.0818 | 0.9910 0.9910 | 0.918 0.918 | 0.808 | 4.47% 4.47% | 0.1774 0.1698 |
| | 2060 | 65,263 | 4,067,206 | 6232.0% | 2,376 | 10,610 | 661,192 | 6232.0% | 1.5335 | 1.00000 | 0.0817 | 0.9910 | 0.918 | 0.798 | 4.47% | 0.1626 |
| | 2061 2062 | 51,742 40.813 | 3,546,574 3.068.112 | 6854.3% 7517.4% | 2,163 1.958 | 8,051 6,079 | 551,861 456,962 | 6854.3% 7517.4% | 1.5335 1.5335 | 1.00000 | 0.0896 0.0949 | 0.9910 0.9910 | 0.910 0.905 | 0.793 0.789 | 4.47% 4.47% | 0.1556 0.1489 |
| | 2063 | 31,987 | 2,634,116 | 8235.0% | 1,748 | 4,560 | 375,520 | 8235.0% | 1.5335 | 1.00000 | 0.1073 | 0.9910 | 0.893 | 0.784 | 4.47% | 0.1426 |
| | 2064 2065 | 24,907 19.264 | 2,248,628 1,912,170 | 9028.1% 9926.2% | 1,550 1,349 | 3,399 2.516 | 306,835 249,748 | 9028.1% 9926.2% | 1.5335 1.5335 | 1.00000 | 0.1132 0.1296 | 0.9910 0.9910 | 0.887 0.870 | 0.779 0.773 | 4.47% 4.47% | 0.1365 0.1306 |
| | 2066 | 14,808 | 1,619,267 | 10935.2% | 1,183 | 1,851 | 202,434 | 10935.2% | 1.5335 | 1.00000 | 0.1235 | 0.9910 | 0.876 | 0.769 | 4.47% | 0.1250 |
| | 2067 | 11,303 | 1,357,201 | 12007.5% | 1,043 | 1,353 | 162,404 | 12007.5% | 1.5335 | 1.00000 | 0.1180 | 0.9910 | 0.882 | 0.763 | 4.47% | 0.1197 |
| | 2068 2069 | 8,567 6,443 | 1,134,978 936,291 | 13247.7% 14533.0% | 893 774 | 981 706 | 129,996 102,646 | 13247.7% 14533.0% | 1.5335 1.5335 | 1.00000 | 0.1438 0.1334 | 0.9910 0.9910 | 0.856 0.867 | 0.758 0.752 | 4.47% 4.47% | 0.1145 0.1096 |
| | 2070+ | 15,574 | 3,232,646 | 20757.2% | 671 | 1,634 | 339,216 | 20757.2% | 1.5335 | 1.00000 | 0.1324 | 0.9910 | 0.868 | N/A | 4.47% | 0.1049 |
| | Past | 125,273,708 | 38,370,495 | 30.6% | 119,917 | 174,429,924 | 51,868,609 | 29.7% | | | | | | | | |
| | Future | 128,442,262 | 462,437,832 | 360.0% | 212,307 | 86,549,161 | 196,212,263 | 226.7% | | | | | | | | |
| Note: | Lifetime | 253,715,970 | 500,808,326 | 197.4% | 332,224 | 260,979,085 | 248,080,872 | 95.1% | | | | | | | | |

Lifetime 253,715,970 500,808,326 197.4% 332,2224
Note:

The premiums shown in this exhibit reflect prior rate incesses authorized by Pennsykania.

The projections are based on the assumptions derived using experience data through 6/30/2018.

The current requested increase of 6.83% is assumed to be implemented starting 71/12020.

Exhibit II-B Demonstration that Lifetime Incurred Claims with Requested Increase are Not Less than Lifetime Earned Premium with Prescribed Factors

| Accumulated value of initial earned premium | 156,603,008 | х | 58% | = | 90,829,744 |
|--|---------------------------|---|-----|---|---------------------------|
| 2a Accumulated value of earned premium 2b Accumulated value of prior premium rate schedule increases (2a-1) | 174,429,924 17,826,917 | x | 85% | = | 15,152,879 |
| 3 Present value of future projected initial earned premium | 57,462,769 | х | 58% | = | 33,328,406 |
| 4a Present value of future projected premium 4b Present value of future projected premium in excess of the projected initial earned premiums (4a-3) | 86,549,161 29,086,392 | x | 85% | = | 24,723,433 |
| 5 Lifetime Earned Premium Times Prescribed Factor: Sum of 1, 2b, 3, and 4b | | | | | 164,034,463 |
| 6a Accumulated value of incurred claims without the inclusion of active life reserves 6b Present value of future projected incurred claims without the inclusion of active life reserves | | | | | 51,868,609 196,212,263 |
| 7 Lifetime Incurred Claims with Rate Increase: Sum of 6a and 6b | | | | | 248,080,872 |
| 8 Test: 7 is not less than 5 | | | | | TRUE |
| | | | | | |

Attachment 1 Metropolitan Life Insurance Company Group Business Assumption Summary

| | Original Pricing Assumptions | Current Best Estimate Assumptions |
|----------------|--|--|
| Interest Rate: | 6.00% | Maximum valuation interest rate for contract reserves, which average to 4.47% |
| Mortality: | 1983 Group Annuity Mortality Table, adjusted to remove loading. These rates vary by age and sex. | 97% of Annuity 2000 Basic table With Mortality Selection Factors of: |
| | | Duration fortality Selection fortality Selection |
| | | 1 55% 12 80% 2 65% 13 82% |
| | | 3 70% 14 82% |
| | | 4 71% 15 82% |
| | | 5 76% 16 84% |
| | | 6 77% 17 90% 7 78% 18 90% |
| | | 7 78% 18 90% 8 78% 19 94% |
| | | 9 80% 20+ 100% |
| | | 10 80% |
| | | 11 80% |
| Voluntary | | Issue Age |
| Lapse Rates: | Duration Rates | Duration Under 40 40 to 44 45 to 49 50 to 54 55 to 59 over 59 |
| | 1 5.50% 2 5.30% | 1 15.60% 10.20% 7.60% 6.50% 6.10% 3.30% 2 12.30% 7.60% 5.80% 4.70% 3.90% 2.90% |
| | | 3 10.00% 7.30% 5.40% 4.70% 3.90% 2.90% |
| | 3 5.10% 4 4.90% | 3 10.00% 7.30% 5.40% 4.90% 3.70% 2.20% 4.90% 4.90% 2.00% |
| | 5 4.80% | 5 7.10% 5.10% 3.80% 3.30% 2.60% 1.50% |
| | 6 4.70% | 6 5.00% 3.40% 3.10% 2.30% 2.10% 1.50% |
| | 7 4.65% | 7 5.00% 3.40% 3.10% 2.30% 2.10% 1.40% |
| | 8 4.60% | 8 4.00% 2.60% 2.40% 2.10% 1.30% 1.30% |
| | 9 4.55% | 9 4.00% 2.60% 2.40% 2.10% 1.30% 1.30% |
| | 10+ 4.50% | 10 4.00% 2.60% 2.40% 2.10% 1.30% 1.30% |
| | | 11 4.40% 2.60% 2.00% 0.90% 1.00% 1.00% |
| | | 12 4.40% 2.60% 2.00% 0.90% 1.00% 1.00% 1.00% 1.80% 1.30% 1.00% 0.80% 0.70% 0.70% |
| | | * After duration 13, grades down to 0.70% by attained age 65 where applicable |
| | | |
| Morbidity: | Details of morbidity assumptions used in original pricing is not available. | Current Group block experience with morbidity U/W Selection Factors of: |
| | | Duration U/W Selection |
| | Incidence and continuance rates for nursing home based on the 1985 NNHS with | 1 58% |
| | nome based on the 1985 NNHS with modifications. | 3 83% |
| | | 4+ 100% |
| Incidence: | Incidence and continuance rates for nursing home based on the 1985 NNHS with | Sample Ultimate Smoothed Incidence Rates (before gross-up to zero-day elimination) |
| | modifications. | Attained Male Female |
| | . 400.000 (000.000.000.000.000.000.000.000. | Age Facility Care Home Care Facility Care Home Care |
| | | 81 1.64% 1.18% 2.04% 1.18% |
| | | 82 1.95% 1.35% 2.41% 1.36% 83 2.29% 1.53% 2.81% 1.55% |
| | | 84 2.66% 1.71% 3.24% 1.76% |
| | | 85 3.06% 1.91% 3.69% 1.97% |
| | | Change Minor refinements to the Home Care incidence assumptions. |
| Continuance: | Incidence and continuance rates for nursing home based on the 1985 NNHS with modifications. | Continuance curves were constructed in 2016 by gender and care path separately for deaths and recoveries. Coefficients to an exponential shaped curve were based on experience adjusted to minimize differences between actual and expected terminations in total as well as at periodic duration points along the curves. |
| | | Death and recovery termination rates are recombined into a single termination table for modeling and valuation uses. |
| | | In 2019, there were some minor refinements to the coefficients of the curves |
| Utilization: | Home care prevalence rates were based on 1982-1984 National Long Term Care Surveys with modifications. | Home Care Facility Care 60% 71% |
| | | |

Attachment 2 Metropolitan Life Insurance Company Nationwide Experience Projections (Premium Normalized to Include Prior Authorized Increases) Actual to Expected Ratios

| | | Actual / F | rojected Experie | | Expecte D | ed Pricing Exper | ience F = E / D | 6-6/5 | | ve Loss Ratio as of | 12/31/2018 J = H / I |
|-------------|----------|---------------|------------------|--------------------|---------------|------------------|--------------------|------------------------|-----------------------|---------------------|-------------------------|
| | Calendar | Earned | B Incurred | C = B / A Loss | Earned | Incurred | Loss | G = C / F Actual to | H Actual/Projected | Expected at 6% | J = H/I Actual to |
| | Year | Premium | Claims | Ratio | Premium | Claims | Ratio | Expected Ratio | at 4.47% (on C) | (on F) | Expected Rati |
| | 1989 | 73,088 | 0 | 0.0% | 73,088 | 4,029 | 5.5% | 0.00 | 0.0% | 5.5% | 0.00 |
| | 1990 | 3,257,050 | 98,323 | 3.0% | 5,311,180 | 329,177 | 6.2% | 0.49 | 2.9% | 6.2% | 0.48 |
| | 1991 | 8,385,510 | 142,014 | 1.7% | 10,112,966 | 918,674 | 9.1% | 0.19 | 2.1% | 8.0% | 0.26 |
| | 1992 | 13,462,425 | 1,315,222 | 9.8% | 13,627,176 | 1,676,420 | 12.3% | 0.79 | 6.1% | 9.9% | 0.61 |
| | 1993 | 24,542,532 | 1,901,925 | 7.7% | 25,811,872 | 3,080,002 | 11.9% | 0.65 | 6.9% | 10.8% | 0.63 |
| | 1994 | 29,207,461 | 2,508,403 | 8.6% | 26,445,658 | 4,619,335 | 17.5% | 0.49 | 7.5% | 12.8% | 0.58 |
| | 1995 | 32,821,623 | 3,484,114 | 10.6% | 29,571,488 | 6,322,772 | 21.4% | 0.50 | 8.3% | 14.9% | 0.56 |
| I Parada at | 1996 | 36,225,167 | 6,221,356 | 17.2% | 32,843,385 | 8,233,368 | 25.1% | 0.69 | 10.3% | 16.9% | 0.61 |
| Historical | 1997 | 41,731,413 | 3,361,627 | 8.1% | 33,261,076 | 10,127,920 | 30.4% | 0.26 | 9.9% | 19.1% | 0.52 |
| Experience | 1998 | 43,940,449 | 7,714,265 | 17.6% | 34,779,640 | 12,278,468 | 35.3% | 0.50 | 11.2% | 21.3% | 0.52 |
| | 1999 | 48,097,051 | 19,963,200 | 41.5% | 41,736,097 | 14,437,295 | 34.6% | 1.20 | 15.7% | 23.1% | 0.68 |
| | 2000 | 55,598,283 | 16,502,514 | 29.7% | 50,139,603 | 17,016,701 | 33.9% | 0.87 | 17.6% | 24.6% | 0.72 |
| | 2001 | 66,614,492 | 24,068,185 | 36.1% | 59,764,759 | 20,224,778 | 33.8% | 1.07 | 20.2% | 25.8% | 0.79 |
| | 2002 | 76,962,588 | 25,845,554 | 33.6% | 68,464,473 | 23,682,297 | 34.6% | 0.97 | 22.0% | 26.8% | 0.82 |
| | 2003 | 84,734,429 | 28,607,127 | 33.8% | 71,644,385 | 27,261,769 | 38.1% | 0.89 | 23.5% | 28.1% | 0.84 |
| | 2004 | 93,549,570 | 29,417,990 | 31.4% | 80,593,438 | 31,638,773 | 39.3% | 0.80 | 24.4% | 29.2% | 0.83 |
| | 2005 | 106,389,491 | 35,602,802 | 33.5% | 90,340,254 | 36,495,479 | 40.4% | 0.83 | 25.4% | 30.3% | 0.84 |
| | 2006 | 121,561,825 | 36,875,172 | 30.3% | 97,421,952 | 41,629,933 | 42.7% | 0.71 | 25.9% | 31.4% | 0.82 |
| | 2007 | 132,858,561 | 46,491,291 | 35.0% | 99,561,785 | 46,874,251 | 47.1% | 0.74 | 26.9% | 32.7% | 0.82 |
| | 2008 | 138,403,077 | 54,716,840 | 39.5% | 97,738,095 | 51,557,726 | 52.8% | 0.75 | 28.0% | 34.1% | 0.82 |
| | 2009 | 141,341,445 | 50,240,716 | 35.5% | 94,966,334 | 56,121,390 | 59.1% | 0.60 | 28.7% | 35.6% | 0.81 |
| | 2010 | 141,989,562 | 48,415,921 | 34.1% | 89,718,036 | 60,515,268 | 67.5% | 0.51 | 29.1% | 37.2% | 0.78 |
| | 2010 | 142,889,041 | 54,545,282 | 38.2% | 84,687,280 | 64,203,430 | 75.8% | 0.50 | 29.7% | 38.9% | 0.76 |
| | | | | | | | | | | | |
| | 2012 | 142,013,255 | 62,091,189 | 43.7% | 78,799,915 | 67,286,746 | 85.4% | 0.51 | 30.5% | 40.6% | 0.75 |
| | 2013 | 162,863,192 | 63,646,086 | 39.1% | 72,902,140 | 69,986,365 | 96.0% | 0.41 | 31.0% | 42.3% | 0.73 |
| | 2014 | 189,092,342 | 70,214,415 | 37.1% | 67,021,906 | 72,070,083 | 107.5% | 0.35 | 31.4% | 44.0% | 0.71 |
| | 2015 | 187,270,622 | 85,340,894 | 45.6% | 61,486,908 | 73,734,116 | 119.9% | 0.38 | 32.2% | 45.6% | 0.71 |
| | 2016 | 187,556,911 | 95,493,013 | 50.9% | 56,284,154 | 74,959,172 | 133.2% | 0.38 | 33.2% | 47.3% | 0.70 |
| | 2017 | 186,345,406 | 124,213,565 | 66.7% | 51,403,340 | 75,737,804 | 147.3% | 0.45 | 34.8% | 48.9% | 0.71 |
| | 2018 | 180,833,741 | 140,540,754 | 77.7% | 46,831,534 | 76,222,538 | 162.8% | 0.48 | 36.5% | 50.4% | 0.73 |
| | 2019 | 179,854,405 | 134,979,417 | 75.0% | 42,566,892 | 76,568,884 | 179.9% | 0.42 | 38.0% | 51.9% | 0.73 |
| | 2020 | 172,545,082 | 144,912,977 | 84.0% | 38,597,616 | 76,481,363 | 198.2% | 0.42 | 39.6% | 53.3% | 0.74 |
| | 2021 | 165,276,344 | 155,042,377 | 93.8% | 34,917,259 | 76,113,387 | 218.0% | 0.43 | 41.2% | 54.6% | 0.75 |
| | 2022 | 158,038,299 | 165,545,413 | 104.8% | 31,514,459 | 75,633,225 | 240.0% | 0.44 | 42.9% | 55.9% | 0.77 |
| | 2023 | 150,802,397 | 176,551,435 | 117.1% | 28,376,448 | 74,799,329 | 263.6% | 0.44 | 44.7% | 57.1% | 0.78 |
| | 2024 | 143,533,323 | 188,099,230 | 131.0% | 25,497,232 | 73,764,894 | 289.3% | 0.45 | 46.5% | 58.3% | 0.80 |
| | | | | | | | | | | | |
| Dunington | 2025 | 136,230,454 | 200,133,440 | 146.9% | 22,860,210 | 72,677,748 | 317.9% | 0.46 | 48.4% | 59.3% | 0.82 |
| Projected | 2026 | 128,953,454 | 212,548,270 | 164.8% | 20,451,240 | 71,363,566 | 348.9% | 0.47 | 50.4% | 60.3% | 0.84 |
| Experience | 2027 | 121,657,781 | 225,146,784 | 185.1% | 18,263,677 | 69,998,949 | 383.3% | 0.48 | 52.5% | 61.3% | 0.86 |
| | 2028 | 114,394,123 | 237,971,315 | 208.0% | 16,275,994 | 68,686,931 | 422.0% | 0.49 | 54.5% | 62.2% | 0.88 |
| | 2029 | 107,265,394 | 250,810,517 | 233.8% | 14,480,974 | 67,257,280 | 464.5% | 0.50 | 56.7% | 63.0% | 0.90 |
| | 2030 | 100,216,491 | 263,449,743 | 262.9% | 12,860,337 | 65,791,146 | 511.6% | 0.51 | 58.8% | 63.8% | 0.92 |
| | 2031 | 93,279,467 | 275,730,380 | 295.6% | 11,398,924 | 64,372,349 | 564.7% | 0.52 | 61.0% | 64.5% | 0.95 |
| | 2032 | 86,502,095 | 287,376,392 | 332.2% | 10,086,638 | 62,866,128 | 623.3% | 0.53 | 63.2% | 65.2% | 0.97 |
| | 2033 | 79,874,951 | 298,176,293 | 373.3% | 8,912,477 | 61,330,583 | 688.1% | 0.54 | 65.5% | 65.8% | 1.00 |
| | 2034 | 73,419,231 | 307,844,461 | 419.3% | 7,860,976 | 59,816,976 | 760.9% | 0.55 | 67.7% | 66.4% | 1.02 |
| | 2035 | 67,195,282 | 315,998,872 | 470.3% | 6,922,734 | 58,196,726 | 840.7% | 0.56 | 69.9% | 66.9% | 1.04 |
| | 2036 | 61,196,639 | 322,439,051 | 526.9% | 6,083,148 | 56,549,556 | 929.6% | 0.57 | 72.0% | 67.4% | 1.07 |
| | 2037 | 55,446,846 | 327,292,319 | 590.3% | 5,332,277 | 54,940,188 | 1030.3% | 0.57 | 74.1% | 67.8% | 1.09 |
| | | | | | | | | | | | |
| | 2038 | 50,017,876 | 330,293,108 | 660.4% | 4,667,427 | 53,277,041 | 1141.5% | 0.58 | 76.2% | 68.3% | 1.12 |
| | 2039 | 44,896,939 | 331,044,062 | 737.3% | 4,075,550 | 51,578,188 | 1265.6% | 0.58 | 78.2% | 68.6% | 1.14 |
| | 2040 | 40,100,900 | 329,556,826 | 821.8% | 3,549,036 | 49,775,407 | 1402.5% | 0.59 | 80.1% | 69.0% | 1.16 |
| | 2041 | 35,638,286 | 326,050,406 | 914.9% | 3,084,069 | 47,831,245 | 1550.9% | 0.59 | 81.9% | 69.3% | 1.18 |
| | 2042 | 31,510,732 | 320,644,871 | 1017.6% | 2,670,023 | 45,833,972 | 1716.6% | 0.59 | 83.7% | 69.6% | 1.20 |
| | 2043 | 27,717,481 | 313,388,572 | 1130.7% | 2,305,719 | 43,613,334 | 1891.5% | 0.60 | 85.3% | 69.9% | 1.22 |
| | 2044 | 24,254,172 | 304,437,745 | 1255.2% | 1,986,011 | 41,420,050 | 2085.6% | 0.60 | 86.8% | 70.1% | 1.24 |
| | 2045 | 21,112,367 | 293,941,395 | 1392.3% | 1,705,128 | 39,208,006 | 2299.4% | 0.61 | 88.2% | 70.3% | 1.25 |
| | 2046 | 18,280,565 | 282,098,762 | 1543.2% | 1,458,304 | 36,985,383 | 2536.2% | 0.61 | 89.5% | 70.5% | 1.27 |
| | 2047 | 15,743,943 | 269,053,633 | 1708.9% | 1,243,293 | 34,815,193 | 2800.2% | 0.61 | 90.7% | 70.7% | 1.28 |
| | 2048 | 13,485,726 | 255,126,266 | 1891.8% | 1,055,463 | 32,676,900 | 3096.0% | 0.61 | 91.8% | 70.8% | 1.30 |
| | 2049 | 11,488,614 | 240,446,363 | 2092.9% | 893,288 | 30,443,218 | 3408.0% | 0.61 | 92.8% | 70.9% | 1.31 |
| | 2050 | 9,734,896 | 225,260,499 | 2313.9% | 754,026 | 28,108,556 | 3727.8% | 0.62 | 93.6% | 71.1% | 1.32 |
| | | 8,204,526 | | | | | | | | | |
| | 2051 | | 209,824,719 | 2557.4% 2825.1% | 632,787 | 25,682,760 | 4058.7% | 0.63 | 94.4% | 71.2% | 1.33 |
| | 2052 | 6,877,171 | 194,286,488 | | 529,093 | 23,227,989 | 4390.2% | 0.64 | 95.1% | 71.2% | 1.34 |
| | 2053 | 5,732,558 | 178,809,370 | 3119.2% | 440,783 | 20,881,279 | 4737.3% | 0.66 | 95.8% | 71.3% | 1.34 |
| | 2054 | 4,752,635 | 163,626,550 | 3442.9% | 366,143 | 18,505,384 | 5054.1% | 0.68 | 96.3% | 71.4% | 1.35 |
| | 2055 | 3,919,684 | 148,845,570 | 3797.4% | 303,067 | 16,111,346 | 5316.1% | 0.71 | 96.8% | 71.4% | 1.36 |
| | 2056 | 3,215,464 | 134,596,659 | 4185.9% | 249,979 | 13,781,442 | 5513.0% | 0.76 | 97.2% | 71.5% | 1.36 |
| | 2057 | 2,623,337 | 121,019,745 | 4613.2% | 206,006 | 11,629,508 | 5645.2% | 0.82 | 97.5% | 71.5% | 1.36 |
| | 2058 | 2,128,280 | 108,244,637 | 5086.0% | 169,243 | 9,724,792 | 5746.0% | 0.89 | 97.9% | 71.5% | 1.37 |
| | 2059 | 1,717,112 | 96,256,777 | 5605.7% | 139,041 | 8,056,167 | 5794.1% | 0.97 | 98.1% | 71.5% | 1.37 |
| | 2060 | 1,377,916 | 85,101,342 | 6176.1% | 114,085 | 6,644,538 | 5824.2% | 1.06 | 98.3% | 71.5% | 1.37 |
| | 2000 | .,0.7,010 | 55, 151,042 | 01.0.170 | ,,000 | , 0,0.1,000 | JUL T.2 /U | | 33.070 | | 1.07 |
| Ī | Past | 2,820,611,603 | 1,139,579,759 | 40.4% | 1,673,343,917 | 1,049,246,078 | 62.7% | 0.64 | 36.5% | 50.4% | 0.73 |
| | Future | 2,580,213,236 | 9,752,003,051 | 378.0% | 395,857,078 | 1,977,020,907 | 499.4% | 0.76 | 255.5% | 354.3% | 0.72 |
| | Lifetime | 5,400,824,840 | 10,891,582,810 | 201.7% | 2,069,200,995 | 3,026,266,985 | 146.3% | 1.38 | 98.3% | 72.0% | 1 |

Note:
- Figures in column A are normalized to reflect the prior rate action authorized by Pennsylvannia rather than the prior rate action approved by other states.
- Figures in column D do not reflect any rate action.

Attachment 3 Metropolitan Life Insurance Company Nationwide Experience Projections (Premium Normalized to Include Prior Authorized Increases) **Actual to Expected Ratios**

| | | / Projected Experi | | | ed Pricing Experie | | |
|----------|----------------------------|----------------------------|-------------------|--------------------------|--------------------------|--------------------|---------------------|
| | | erience through 12 | | | d based on Original | | |
| | | ased on Current A | | | ptions since incept | | 0.015 |
| | A Earned | B Incurred | C = B / A Loss | D Earned | E Incurred | F = E / D Loss | G = C / F Actual to |
| Duration | Premium | Claims | Ratio | Premium | Claims | Ratio | Expected Ratio |
| 1 | 109,211,753 | 17,639,534 | 16.2% | 103,097,706 | 5,683,649 | 5.5% | 2.93 |
| 2 | 181,678,373 | 14,382,125 | 7.9% | 171,360,628 | 20,953,104 | 12.2% | 0.65 |
| 3 | 170,882,694 | 15,882,104 | 9.3% | 158,818,285 | 28,457,066 | 17.9% | 0.52 |
| 4 | 163,705,671 | 23,305,970 | 14.2% | 147,274,304 | 35,627,975 | 24.2% | 0.59 |
| 5 | 160,290,888 | 26,156,859 | 16.3% | 136,457,042 | 43,500,661 | 31.9% | 0.51 |
| 6 | 157,360,455 | 23,593,986 | 15.0% | 126,336,500 | 55,541,985 | 44.0% | 0.34 |
| 7 | 156,477,923 | 36,645,895 | 23.4% | 116,680,376 | 60,824,280 | 52.1% | 0.45 |
| 8 | 156,867,413 | 42,113,822 | 26.8% | 107,509,122 | 63,561,205 | 59.1% | 0.45 |
| 9 | 157,794,086 | 45,202,572 | 28.6% | 99,008,523 | 67,919,789 | 68.6% | 0.42 |
| 10 | 159,567,433 | 53,264,503 | 33.4% | 90,970,313 | 70,420,795 | 77.4% | 0.43 |
| 11 | 161,695,775 | 56,698,806 | 35.1% | 83,439,578 | 71,649,125 | 85.9% | 0.41 |
| 12 | 161,997,432 | 63,046,407 | 38.9% | 76,299,034 | 75,342,317 | 98.7% | 0.39 |
| 13 | 165,248,246 | 66,026,003 | 40.0% | 69,560,477 | 77,221,731 | 111.0% | 0.36 |
| 14 15 | 169,290,967 | 76,932,429 89,744,611 | 45.4% 53.1% | 63,251,299 57,325,991 | 78,053,325 80,677,569 | 123.4% 140.7% | 0.37 0.38 |
| 16 | 168,977,528 169,379,855 | 95,717,826 | 56.5% | 51,839,802 | 81,105,167 | 156.5% | 0.36 |
| 17 | 169,746,557 | 103,406,948 | 60.9% | 46,766,568 | 80,994,286 | 173.2% | 0.35 |
| 18 | 167,350,685 | 119,461,483 | 71.4% | 42,035,652 | 82,285,425 | 195.8% | 0.36 |
| 19 | 163,786,016 | 128,747,533 | 78.6% | 37,732,817 | 81,805,767 | 216.8% | 0.36 |
| 20 | 160,239,239 | 141,913,336 | 88.6% | 33,753,616 | 80,282,014 | 237.8% | 0.37 |
| 21 | 156,003,646 | 148,269,439 | 95.0% | 30,148,995 | 79,683,011 | 264.3% | 0.36 |
| 22 | 149,962,425 | 166,345,133 | 110.9% | 26,853,682 | 77,836,956 | 289.9% | 0.38 |
| 23 | 144,601,897 | 186,091,257 | 128.7% | 23,859,317 | 75,429,536 | 316.1% | 0.41 |
| 24 | 139,789,000 | 202,977,087 | 145.2% | 21,174,388 | 74,653,590 | 352.6% | 0.41 |
| 25 | 133,764,106 | 222,286,112 | 166.2% | 18,765,584 | 72,901,932 | 388.5% | 0.43 |
| 26 | 127,547,612 | 238,860,835 | 187.3% | 16,577,171 | 70,617,790 | 426.0% | 0.44 |
| 27 | 122,195,123 | 255,762,253 | 209.3% | 14,633,500 | 70,080,798 | 478.9% | 0.44 |
| 28 | 115,121,544 | 273,253,441 | 237.4% | 12,876,654 | 68,650,989 | 533.1% | 0.45 |
| 29 | 107,961,511 | 284,373,998 | 263.4% | 11,360,426 | 66,964,157 | 589.5% | 0.45 |
| 30 | 101,081,248 | 299,296,023 | 296.1% | 10,003,331 | 66,209,907 | 661.9% | 0.45 |
| 31 | 93,548,473 | 312,182,920 | 333.7% | 8,770,661 | 64,163,546 | 731.6% | 0.46 |
| 32 | 86,200,346 | 323,342,482 | 375.1% | 7,682,739 | 62,012,506 | 807.2% | 0.46 |
| 33 | 79,087,269 | 332,769,559 | 420.8% | 6,710,210 | 60,871,075 | 907.1% | 0.46 |
| 34 | 72,245,318 | 340,232,788 | 470.9% | 5,843,295 | 59,040,309 | 1010.4% | 0.47 |
| 35 | 65,682,964 | 345,565,285 | 526.1% | 5,132,022 | 57,121,977 | 1113.1% | 0.47 |
| 36 | 59,447,254 | 348,801,899 | 586.7% | 4,439,674 | 55,785,198 | 1256.5% | 0.47 |
| 37 | 53,544,305 | 349,763,990 | 653.2% | 3,851,267 | 54,210,767 | 1407.6% | 0.46 |
| 38 | 48,009,336 | 348,442,547 | 725.8% | 3,315,743 | 52,540,110 | 1584.6% | 0.46 |
| 39 | 42,850,047 | 344,826,229 | 804.7% | 2,856,766 | 51,489,229 | 1802.4% | 0.45 |
| 40 41 | 38,062,491 33,662,794 | 339,094,029 331,524,081 | 890.9% 984.8% | 2,457,829 2,104,301 | 49,851,407 47,702,035 | 2028.3% 2266.9% | 0.44 0.43 |
| 42 | 29,631,844 | 322,270,826 | 1087.6% | 1,784,894 | 46,115,027 | 2583.6% | 0.43 |
| 43 | 25,960,341 | 311,424,215 | 1199.6% | 1,518,520 | 44,122,427 | 2905.6% | 0.42 |
| 43 | 22,635,140 | 299,254,981 | 1322.1% | 1,281,959 | 42,035,137 | 3279.0% | 0.40 |
| 45 | 19,643,598 | 286,111,008 | 1456.5% | 1,077,682 | 40,263,559 | 3736.1% | 0.39 |
| 46 | 16,975,688 | 272,074,400 | 1602.7% | 915,457 | 38,122,461 | 4164.3% | 0.38 |
| 47 | 14,603,361 | 257,432,040 | 1762.8% | 765,311 | 36,058,859 | 4711.7% | 0.37 |
| 48 | 12,504,126 | 242,395,142 | 1938.5% | 613,955 | 34,206,922 | 5571.6% | 0.35 |
| 49 | 10,657,679 | 227,100,357 | 2130.9% | 522,180 | 32,218,925 | 6170.1% | 0.35 |
| 50 | 9,040,639 | 211,707,433 | 2341.7% | 425,690 | 30,126,161 | 7077.0% | 0.33 |
| 51 | 7,631,139 | 196,361,436 | 2573.2% | 347,029 | 24,559,341 | 7077.0% | 0.36 |
| 52 | 6,408,978 | 181,098,364 | 2825.7% | 282,904 | 20,021,177 | 7077.0% | 0.40 |
| 53 | 5,354,605 | 166,083,684 | 3101.7% | 230,628 | 16,321,592 | 7077.0% | 0.44 |
| 54 | 4,449,415 | 151,416,829 | 3403.1% | 188,012 | 13,305,630 | 7077.0% | 0.48 |
| 55 | 3,676,384 | 137,244,981 | 3733.2% | 153,270 | 10,846,968 | 7077.0% | 0.53 |
| 56 | 3,019,621 | 123,697,388 | 4096.5% | 124,948 | 8,842,626 | 7077.0% | 0.58 |
| 57 | 2,464,568 | 110,820,245 | 4496.5% | 101,860 | 7,208,654 | 7077.0% | 0.64 |
| 58 | 1,998,273 | 98,618,739 | 4935.2% | 83,038 | 5,876,613 | 7077.0% | 0.70 |
| 59 | 1,608,944 | 87,149,882 | 5416.6% | 67,694 | 4,790,711 | 7077.0% | 0.77 |
| 60 | 1,285,921 | 76,477,457 | 5947.3% | 55,185 | 3,905,466 | 7077.0% | 0.84 |
| otimo | 5,401,467,961 | 10 002 692 F44 | 202 59/ | 2.060.475.402 | 2 020 672 242 | 146 00/ | 1 20 |
| etime | 3,401,407,907 | 10,992,683,544 | 203.5% | 2,069,475,403 | 3,038,672,312 | 146.8% | 1.39 |

Note:

⁻ Figures in column A are normalized to reflect the prior rate action authorized by Pennsylvannia rather than the prior rate action approved by other states.

⁻ Figures in column D do not reflect any rate action.

* Columns A and B are discounted back to the inception date at an interest rate of 4.47%, which is the weighted average maximum valuation interest rate for contract reserves. Columns D and E are discounted back to the inception date at the original pricing interest rate of 6%.

Attachment 4
Metropolitan Life Insurance Company
Actual-to-Expected Results - Lapse
Group Business

| | L | _apse | |
|--------------------|--------|-------------------------|--------|
| Policy Duration | Actual | Expected ^{1,2} | A/E% |
| 1 | 23,387 | 31,077 | 75.3% |
| 2 | 21,027 | 21,607 | 97.3% |
| 3 | 16,139 | 17,791 | 90.7% |
| 4 | 13,722 | 12,884 | 106.5% |
| 5 | 11,258 | 10,788 | 104.4% |
| 6 | 8,879 | 7,609 | 116.7% |
| 7 | 7,345 | 7,207 | 101.9% |
| 8 | 6,891 | 5,146 | 133.9% |
| 9 | 5,229 | 4,768 | 109.7% |
| 10 | 5,790 | 4,516 | 128.2% |
| 11 | 4,505 | 3,336 | 135.0% |
| 12 | 3,105 | 3,087 | 100.6% |
| 13+ | 11,400 | 9,048 | 126.0% |

Attachment 4
Metropolitan Life Insurance Company
Actual-to-Expected Results - Mortality
Group Business

| | Me | ortality | |
|----------|--------|-----------------------|---------|
| Policy | _ | 1 | |
| Duration | Actual | Expected ¹ | A/E% |
| 1 | 791 | 764 | 103.58% |
| 2 | 966 | 934 | 103.44% |
| 3 | 1,097 | 1,050 | 104.48% |
| 4 | 1,160 | 1,110 | 104.49% |
| 5 | 1,296 | 1,241 | 104.47% |
| 6 | 1,318 | 1,315 | 100.21% |
| 7 | 1,449 | 1,396 | 103.83% |
| 8 | 1,391 | 1,329 | 104.63% |
| 9 | 1,462 | 1,401 | 104.36% |
| 10 | 1,442 | 1,450 | 99.45% |
| 11 | 1,510 | 1,458 | 103.56% |
| 12 | 1,493 | 1,447 | 103.18% |
| 13 | 1,506 | 1,446 | 104.17% |
| 14 | 1,433 | 1,381 | 103.77% |
| 15 | 1,424 | 1,378 | 103.31% |
| 16 | 1,454 | 1,391 | 104.52% |
| 17 | 1,462 | 1,401 | 104.33% |
| 18 | 1,327 | 1,276 | 103.99% |
| 19 | 1,270 | 1,223 | 103.83% |
| 20+ | 7,326 | 7,034 | 104.15% |

¹ The expecteds are based on current best estimate assumptions.

² Experience based on most recent five years only. The majority of the remaining policies are in their 13th duration or later, as a result, the results for duration 12 and before are no longer relevant.

Attachment 4 Metropolitan Life Insurance Company Actual to Expected Incidence Group Business

| | | | Fen | nale | | | | | M | ale | | |
|--------------|----------------------------|------------------------------|----------|-------------------------------|------------------------------|------|-------------------------------|------------------------------|------|-------------------------------|------------------------------|------|
| | | Facility Care | ; | | Home Care | | | Facility Care | 9 | | Home Care | |
| Attained Age | Actual Claims ¹ | Expected Claims ² | A/E% | Actual Claims ¹ | Expected Claims ² | A/E% | Actual Claims ¹ | Expected Claims ² | A/E% | Actual Claims ¹ | Expected Claims ² | A/E% |
| under 50 | 18 | 64 | 28% | 48 | 60 | 79% | 24 | 50 | 48% | 69 | 49 | 141% |
| 50 to 54 | 27 | 70 | 39% | 74 | 66 | 111% | 24 | 56 | 43% | 63 | 56 | 113% |
| 55 to 59 | 48 | 113 | 42% | 124 | 107 | 116% | 43 | 93 | 46% | 93 | 93 | 100% |
| 60 to 64 | 115 | 153 | 75% | 142 | 140 | 102% | 113 | 134 | 85% | 142 | 132 | 108% |
| 65 to 69 | 237 | 201 | 118% | 210 | 153 | 137% | 203 | 171 | 118% | 171 | 156 | 110% |
| 70 to 74 | 495 | 466 | 106% | 270 | 239 | 113% | 375 | 356 | 105% | 289 | 244 | 118% |
| 75 to 79 | 984 | 960 | 103% | 379 | 367 | 103% | 682 | 686 | 99% | 347 | 334 | 104% |
| 80 to 84 | 1,441 | 1,420 | 101% | 439 | 441 | 99% | 933 | 956 | 98% | 330 | 347 | 95% |
| 85 to 89 | 1,210 | 1,198 | 101% | 308 | 342 | 90% | 758 | 759 | 100% | 222 | 232 | 95% |
| over 89 | 520 | 523 | 100% | 140 | 148 | 94% | 326 | 305 | 107% | 93 | 105 | 89% |
| Total | 5,095 | 5,168 | 99% | 2,134 | 2,065 | 103% | 3,481 | 3,565 | 98% | 1,819 | 1,748 | 104% |

¹ Based on actual experience through 6/30/2018.

² The expected claims are based on current best estimate assumptions.

Attachment 4
Metropolitan Life Insurance Company
Actual to Expected Claim Termination
All Business (exclude AARP-Pru)

| Claim Duration (Months) | Actual Deaths | Expected Deaths ¹ | Actual Recoveries | Expected Recoveries ¹ | Deaths A/E% | Recoveries A/E% | Total A/E% |
|-------------------------|------------------|------------------------------|----------------------|-------------------------------------|----------------|--------------------|------------|
| 1 | 970 | 678 | 69 | 107 | 143% | 64% | 132% |
| 2 | 850 | 1,334 | 180 | 257 | 64% | 70% | 65% |
| 3 | 891 | 1,224 | 251 | 254 | 73% | 99% | 77% |
| 4 | 1,019 | 1,394 | 336 | 294 | 73% | 114% | 80% |
| 5 | 1,036 | 1,191 | 312 | 246 | 87% | 127% | 94% |
| 6 | 885 | 1,001 | 228 | 201 | 88% | 113% | 93% |
| 7 | 799 | 844 | 203 | 168 | 95% | 121% | 99% |
| 8 | 722 | 734 | 151 | 139 | 98% | 108% | 100% |
| 9 | 668 | 649 | 126 | 117 | 103% | 108% | 104% |
| 10 | 618 | 588 | 124 | 100 | 105% | 124% | 108% |
| 11 | 553 | 544 | 98 | 87 | 102% | 112% | 103% |
| 12 | 616 | 512 | 94 | 77 | 120% | 122% | 121% |
| 13 | 500 | 483 | 89 | 69 | 103% | 129% | 107% |
| 14+ | 15,204 | 13,659 | 1,350 | 1,476 | 111% | 91% | 109% |
| Total | 25,331 | 24,835 | 3,611 | 3,594 | 102% | 100% | 102% |

¹ The expected deaths and recoveries are based on current best estimate assumptions.

Attachment 9-A Metropolitan Life Insurance Company Nationwide Experience Projections (Premium Normalized to Include Prior Authorized Increases)

| | | | | Less B | atio Demonst | and on | | | Foot | are Derived fre | om Projected Values for | . Illinotrati | ua Durmanaa | Only | Interest Ra | to Footoro |
|--------------------------|------------------|----------------------------|----------------------------|----------------------|--------------------|----------------------------|----------------------------|----------------------|-------------------------|----------------------|-------------------------|--------------------|-----------------------|------------------------|-----------------------|------------------------|
| | | | lithout Interest | | | | With Interest | | Premium | | Pe | rsistency I | Factors | | Calendar Year | Mid-Year |
| | Calendar Year | Earned Premium | Paid Claims | Loss Ratio | Life Years | Earned Premium | Paid Claims | Loss Ratio | Rate Increase Factor | Benefit Downgrade | | Policy ck Lapse | Policy Persistency | Premium Persistency | Effective Int Rate | Disc / Accum Factor |
| | 1989 | 73,088 | | 0.0% | 649 | 265,877 | | 0.0% | | | | | , | | 4.47% | 3.6378 |
| | 1990 1991 | 3,257,050 8.385,510 | 98,323 142,014 | 3.0% 1.7% | 9,365 27,399 | 11,340,863 27,947,297 | 342,354 473,305 | 3.0% 1.7% | | | | | | | 4.47% 4.47% | 3.4819 3.3328 |
| | 1992 | 13,462,425 | 1,315,222 | 9.8% | 34,519 | 42,945,965 | 4,195,638 | 9.8% | | | | | | | 4.47% | 3.1901 |
| | 1993 | 24,542,532 | 1,901,925 | 7.7% | 57,383 | 74,938,870 | 5,807,393 | 7.7% | | | | | | | 4.47% | 3.0534 |
| | 1994 1995 | 29,207,461 32,821,623 | 2,508,403 3,484,114 | 8.6% 10.6% | 59,284 63,893 | 85,363,121 91.817.454 | 7,331,179 9,746,699 | 8.6% 10.6% | | | | | | | 4.47% 4.47% | 2.9226 2.7975 |
| | 1996 | 36,225,167 | 6,221,356 | 17.2% | 76,547 | 96,998,343 | 16,658,619 | 17.2% | | | | | | | 4.47% | 2.6777 |
| | 1997 | 41,731,413 | 3,361,627 | 8.1% | 78,740 | 106,956,139 | 8,615,732 | 8.1% | | | | | | | 4.47% | 2.5630 |
| | 1998 1999 | 43,940,449 48,097,051 | 7,400,663 19,903,012 | 16.8% 41.4% | 82,595 95,693 | 107,794,308 112,937,587 | 18,155,238 46,734,635 | 16.8% 41.4% | | | | | | | 4.47% 4.47% | 2.4532 |
| | 2000 | 55,598,283 | 15,341,470 | 27.6% | 111,642 | 124,959,751 | 34,480,673 | 27.6% | | | | | | | 4.47% | 2.2475 |
| | 2001 | 66,614,492 | 23,296,986 | 35.0% | 138,474 | 143,306,604 | 50,118,403 | 35.0% | | | | | | | 4.47% | 2.1513 |
| Historical Experience | 2002 2003 | 76,962,588 84,734,429 | 25,824,880 27,262,857 | 33.6% 32.2% | 154,041 161,514 | 158,476,862 167.007.058 | 53,177,083 53,733,643 | 33.6% 32.2% | | | | | | | 4.47% 4.47% | 2.0591 1.9709 |
| Exponence | 2004 | 93,549,570 | 29,011,708 | 31.0% | 177,688 | 176,484,037 | 54,731,448 | 31.0% | | | | | | | 4.47% | 1.8865 |
| | 2005 | 106,389,491 | 33,953,523 | 31.9% | 193,671 | 192,110,489 | 61,310,830 | 31.9% | | | | | | | 4.47% | 1.8057 |
| | 2006 2007 | 121,561,825 132.858.561 | 35,342,958 45,028,895 | 29.1% 33.9% | 207,903 211.594 | 210,105,912 219,795,765 | 61,086,319 74,493,961 | 29.1% 33.9% | | | | | | | 4.47% 4.47% | 1.7284 1.6544 |
| | 2008 | 138,403,077 | 51,819,969 | 37.4% | 211,070 | 219,161,487 | 82,057,002 | 37.4% | | | | | | | 4.47% | 1.5835 |
| | 2009 | 141,341,445 | 48,299,312 | 34.2% | 199,029 | 214,228,247 | 73,206,249 | 34.2% | | | | | | | 4.47% | 1.5157 |
| | 2010 2011 | 141,989,562 142,889,041 | 46,028,904 50,689,248 | 32.4% 35.5% | 193,053 187,553 | 205,992,943 198,419,139 | 66,776,946 70,388,302 | 32.4% 35.5% | | | | | | | 4.47% 4.47% | 1.4508 1.3886 |
| | 2012 | 142,013,255 | 54,145,282 | 38.1% | 178,477 | 188,756,638 | 71,967,095 | 38.1% | | | | | | | 4.47% | 1.3291 |
| | 2013 | 162,863,192 | 53,843,020 | 33.1% | 170,629 | 207,197,738 | 68,500,143 | 33.1% | | | | | | | 4.47% | 1.2722 |
| | 2014 2015 | 189,092,342 187,270,622 | 51,316,061 56,233,400 | 27.1% 30.0% | 165,636 160,865 | 230,263,300 218,277,590 | 62,489,075 65,544,136 | 27.1% 30.0% | | | | | | | 4.47% 4.47% | 1.2177 1.1656 |
| | 2016 | 187,556,911 | 41,767,092 | 22.3% | 156,155 | 209,247,985 | 46,597,482 | 22.3% | | | | | | | 4.47% | 1.1157 |
| | 2017 | 186,345,406 | 29,221,373 | 15.7% | 151,817 | 198,992,000 | 31,204,523 | 15.7% | | | | | | | 4.47% | 1.0679 |
| Projected | 2018 2019 | 180,833,741 179,854,405 | 9,109,991 24,293,532 | 5.0% 13.5% | 147,355 145.563 | 184,835,382 175.960.601 | 9,311,585 23.767.583 | 5.0% 13.5% | 1.4356 | N/A | 0.0122 | N/A | 0.988 | 0.995 | 4.47% 4.47% | 1.0221 0.9784 |
| Future | 2020 | 172,545,082 | 57,644,053 | 33.4% | 143,936 | 161,579,276 | 53,980,584 | 33.4% | 1.4356 | N/A | 0.0112 | N/A | 0.989 | 0.959 | 4.47% | 0.9364 |
| Experience | 2021 | 165,276,344 158.038.299 | 86,938,230 113,293,590 | 52.6% 71.7% | 141,622 140,234 | 148,143,460 135,588,498 | 77,926,035 97.199.905 | 52.6% 71.7% | 1.4356 1.4356 | N/A N/A | 0.0161 0.0098 | N/A N/A | 0.984 | 0.958 0.956 | 4.47% 4.47% | 0.8963 |
| | 2023 | 150,802,397 | 137,185,204 | 91.0% | 138,939 | 123,839,007 | 112,656,562 | 91.0% | 1.4356 | N/A | 0.0092 | N/A | 0.991 | 0.954 | 4.47% | 0.8212 |
| | 2024 | 143,533,323 | 157,784,204 | 109.9% | 137,694 | 112,821,189 | 124,022,779 | 109.9% | 1.4356 | N/A | 0.0090 | N/A | 0.991 | 0.952 | 4.47% | 0.7860 |
| | 2025 2026 | 136,230,454 128,953,454 | 176,926,266 193,843,117 | 129.9% 150.3% | 136,495 135,320 | 102,494,568 92,864,204 | 133,112,537 139,593,677 | 129.9% 150.3% | 1.4356 1.4356 | N/A N/A | 0.0087 0.0086 | N/A N/A | 0.991 0.991 | 0.949 0.947 | 4.47% 4.47% | 0.7524 0.7201 |
| | 2027 | 121,657,781 | 208,944,963 | 171.7% | 134,175 | 83,857,897 | 144,024,370 | 171.7% | 1.4356 | N/A | 0.0085 | N/A | 0.992 | 0.943 | 4.47% | 0.6893 |
| | 2028 | 114,394,123 | 223,793,695 | 195.6% | 133,053 | 75,473,850 | 147,652,444 | 195.6% | 1.4356 | N/A | 0.0084 | N/A | 0.992 | 0.940 | 4.47% | 0.6598 |
| | 2029 | 107,265,394 100,216,491 | 238,765,975 253,497,459 | 222.6% 252.9% | 131,949 130.844 | 67,739,368 60,577,230 | 150,783,544 153,230,011 | 222.6% 252.9% | 1.4356 1.4356 | N/A N/A | 0.0083 0.0084 | N/A N/A | 0.992 | 0.938 | 4.47% 4.47% | 0.6315 0.6045 |
| | 2031 | 93,279,467 | 267,944,279 | 287.2% | 129,759 | 53,969,077 | 155,025,602 | 287.2% | 1.4356 | N/A | 0.0083 | N/A | 0.992 | 0.931 | 4.47% | 0.5786 |
| | 2032 | 86,502,095 | 282,225,448 296 180 678 | 326.3% 370.8% | 128,634 127,506 | 47,904,276 42,339,622 | 156,294,546 156,997,628 | 326.3% 370.8% | 1.4356 1.4356 | N/A N/A | 0.0087 | N/A | 0.991 | 0.927 | 4.47% 4.47% | 0.5538 0.5301 |
| | 2033 | 79,874,951 73,419,231 | 296,180,678 309,601,398 | 370.8% 421.7% | 127,506 | 42,339,622 37.250.741 | 156,997,628 | 370.8% 421.7% | 1.4356 | N/A N/A | 0.0088 | N/A N/A | 0.991 0.991 | 0.923 0.919 | 4.47% 4.47% | 0.5301 |
| | 2035 | 67,195,282 | 322,211,759 | 479.5% | 125,087 | 32,632,668 | 156,478,684 | 479.5% | 1.4356 | N/A | 0.0099 | N/A | 0.990 | 0.915 | 4.47% | 0.4856 |
| | 2036 2037 | 61,196,639 55.446.846 | 333,744,148 343.951.281 | 545.4% 620.3% | 123,802 122,405 | 28,446,582 24.669,939 | 155,137,280 153.034.081 | 545.4% 620.3% | 1.4356 1.4356 | N/A N/A | 0.0103 0.0113 | N/A N/A | 0.990 | 0.911 0.906 | 4.47% 4.47% | 0.4648 0.4449 |
| | 2037 | 50,446,846 | 343,951,281 | 705.1% | 122,405 | 24,669,939 | 153,034,081 | 705.1% | 1.4356 | N/A N/A | 0.0113 | N/A N/A | 0.989 | 0.906 | 4.47% | 0.4449 |
| | 2039 | 44,896,939 | 359,656,863 | 801.1% | 119,390 | 18,301,446 | 146,607,778 | 801.1% | 1.4356 | N/A | 0.0128 | N/A | 0.987 | 0.898 | 4.47% | 0.4076 |
| | 2040 2041 | 40,100,900 35.638.286 | 364,632,420 367,458,774 | 909.3% 1031.1% | 117,631 115,814 | 15,646,294 13,309,536 | 142,269,778 137,231,784 | 909.3% 1031.1% | 1.4356 1.4356 | N/A N/A | 0.0147 0.0155 | N/A N/A | 0.985 0.985 | 0.893 0.889 | 4.47% 4.47% | 0.3902 0.3735 |
| | 2041 | 31,510,732 | 368,086,745 | 1168.1% | 113,879 | 11,264,017 | 131,578,515 | 1168.1% | 1.4356 | N/A | 0.0167 | N/A | 0.983 | 0.884 | 4.47% | 0.3575 |
| | 2043 | 27,717,481 | 366,508,073 | 1322.3% | 111,825 | 9,483,688 | 125,402,751 | 1322.3% | 1.4356 | N/A | 0.0180 | N/A | 0.982 | 0.880 | 4.47% | 0.3422 |
| | 2044 2045 | 24,254,172 21,112,367 | 362,748,004 356.878.451 | 1495.6% 1690.4% | 109,791 107,616 | 7,943,258 6.618.169 | 118,800,226 111,871,967 | 1495.6% 1690.4% | 1.4356 1.4356 | N/A N/A | 0.0182 0.0198 | N/A N/A | 0.982 | 0.875 0.870 | 4.47% 4.47% | 0.3275 0.3135 |
| | 2046 | 18,280,565 | 349,007,122 | 1909.2% | 105,360 | 5,485,034 | 104,718,630 | 1909.2% | 1.4356 | N/A | 0.0210 | N/A | 0.979 | 0.866 | 4.47% | 0.3000 |
| | 2047 | 15,743,943 | 339,277,027 | 2155.0% | 103,045 | 4,521,597 | 97,439,003 | 2155.0% | 1.4356 | N/A | 0.0220 | N/A | 0.978 | 0.861 | 4.47% | 0.2872 |
| | 2048 2049 | 13,485,726 11.488.614 | 327,849,647 314,932,504 | 2431.1% 2741.3% | 100,496 97.813 | 3,707,161 3.022.898 | 90,124,281 82.865.412 | 2431.1% 2741.3% | 1.4356 1.4356 | N/A N/A | 0.0247 0.0267 | N/A N/A | 0.975 0.973 | 0.857 0.852 | 4.47% 4.47% | 0.2749 0.2631 |
| | 2050 | 9,734,896 | 300,743,924 | 3089.3% | 94,914 | 2,451,748 | 75,742,805 | 3089.3% | 1.4356 | N/A | 0.0296 | N/A | 0.970 | 0.847 | 4.47% | 0.2519 |
| | 2051 | 8,204,526 | 285,525,304 | 3480.1% | 91,821 | 1,977,820 | 68,830,011 | 3480.1% | 1.4356 | N/A | 0.0326 | N/A | 0.967 | 0.843 | 4.47% | 0.2411 |
| | 2052 2053 | 6,877,171 5,732,558 | 269,497,216 252,857,020 | 3918.7% 4410.9% | 88,307 84,247 | 1,586,835 1,266,074 | 62,183,654 55,845,178 | 3918.7% 4410.9% | 1.4356 1.4356 | N/A N/A | 0.0383 0.0460 | N/A N/A | 0.962 0.954 | 0.838 0.834 | 4.47% 4.47% | 0.2307 0.2209 |
| | 2054 | 4,752,635 | 235,883,695 | 4963.2% | 80,209 | 1,004,694 | 49,865,170 | 4963.2% | 1.4356 | N/A | 0.0479 | N/A | 0.952 | 0.829 | 4.47% | 0.2114 |
| | 2055 2056 | 3,919,684 3,215,464 | 218,833,970 201,847,084 | 5582.9% 6277.4% | 76,200 72.062 | 793,120 622,760 | 44,279,513 39.093.027 | 5582.9% 6277.4% | 1.4356 1.4356 | N/A N/A | 0.0500 0.0543 | N/A N/A | 0.950 0.946 | 0.825 0.820 | 4.47% 4.47% | 0.2023 0.1937 |
| | 2056 | 3,215,464 2,623,337 | 201,847,084 185,015,637 | 7052.7% | 72,062 66,630 | 622,760 486,317 | 39,093,027 34,298,408 | 7052.7% | 1.4356 | N/A N/A | 0.0543 | N/A N/A | 0.946 | 0.820 | 4.47% 4.47% | 0.1937 |
| | 2058 | 2,128,280 | 168,606,622 | 7922.2% | 61,561 | 377,644 | 29,917,746 | 7922.2% | 1.4356 | N/A | 0.0761 | N/A | 0.924 | 0.811 | 4.47% | 0.1774 |
| | 2059 2060 | 1,717,112 1,377,916 | 152,842,925 137,805,825 | 8901.2% 10001.0% | 56,766 52,170 | 291,636 224,003 | 25,959,020 22,402,643 | 8901.2% 10001.0% | 1.4356 1.4356 | N/A N/A | 0.0779 0.0810 | N/A N/A | 0.922 0.919 | 0.807 0.802 | 4.47% 4.47% | 0.1698 0.1626 |
| | 2061 | 1,099,641 | 123,525,247 | 11233.2% | 47,696 | 171,108 | 19,221,006 | 11233.2% | 1.4356 | N/A | 0.0857 | N/A | 0.914 | 0.798 | 4.47% | 0.1556 |
| | 2062 | 872,938 | 110,089,658 | 12611.4% | 43,254 | 130,015 | 16,396,669 | 12611.4% | 1.4356 | N/A | 0.0931 | N/A | 0.907 | 0.794 | 4.47% | 0.1489 |
| | 2063 2064 | 689,126 540,948 | 97,580,568 85,995,479 | 14160.0% 15897.2% | 39,077 35,032 | 98,242 73,815 | 13,911,090 11,734,434 | 14160.0% 15897.2% | 1.4356 1.4356 | N/A N/A | 0.0966 0.1035 | N/A N/A | 0.903 0.896 | 0.789 0.785 | 4.47% 4.47% | 0.1426 0.1365 |
| | 2064 | 422,385 | 75,350,479 | 17839.3% | 35,032 | 73,815 55,168 | 9,841,499 | 17839.3% | 1.4356 | N/A N/A | 0.1035 | N/A N/A | 0.888 | 0.785 | 4.47% | 0.1305 |
| | 2066 | 328,094 | 65,630,204 | 20003.5% | 27,512 | 41,017 | 8,204,795 | 20003.5% | 1.4356 | N/A | 0.1156 | N/A | 0.884 | 0.777 | 4.47% | 0.1250 |
| | 2067 2068 | 253,514 194,858 | 56,850,900 48,942,370 | 22425.2% 25117.0% | 24,103 20.895 | 30,336 22.318 | 6,802,836 5.605.655 | 22425.2% 25117.0% | 1.4356 1.4356 | N/A N/A | 0.1239 0.1331 | N/A N/A | 0.876 0.867 | 0.773 0.769 | 4.47% 4.47% | 0.1197 0.1145 |
| | 2069 | 149,008 | 41,887,512 | 28110.9% | 18,071 | 16,336 | 4,592,135 | 28110.9% | 1.4356 | N/A | 0.1351 | N/A | 0.865 | 0.765 | 4.47% | 0.1096 |
| | 2070+ | 392,003 | 166,518,074 | 42478.8% | 15,433 | 41,135 | 17,473,512 | 42478.8% | 1.4356 | N/A | 0.1460 | N/A | 0.854 | N/A | 4.47% | 0.1049 |
| | Past | 2,820,611,603 | 773,873,589 | 27.4% | 3,864,233 | 4,426,924,751 | 1,209,235,689 | 27.3% | | | | | | | | |
| | Future | 2,585,155,752 | 11,540,310,430 | 446.4% | 4,984,024 | 1,740,518,547 | 4,509,306,402 | 259.1% | | | | | | | | |
| | Lifetime | 5,405,767,355 | 12,314,184,019 | 227.8% | 8,848,257 | 6,167,443,298 | 5,718,542,091 | 92.7% | | | | | | | | |

Lifetime | 5,405,/197,/350 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,105,010 | 12,319,

Attachment 9-A Metropolitan Life Insurance Company Nationwide Experience Projections (Premium Normalized to Include Prior Authorized Increases) and With 6.82% Future Increase

| | | | | Less B | atio Demonst | ration | | | Fants | are Derived fre | om Projected Value | a for Illustrat | ius Durmanas (| Omb. | Interest Ra | to Footoro |
|--------------------------|------------------|----------------------------|----------------------------|----------------------|--------------------|----------------------------|----------------------------|----------------------|-------------------------|----------------------|-----------------------------|-----------------------|-----------------------|------------------------|-----------------------|------------------------|
| | | | /ithout Interest | | | | With Interest | | Premium | | | Persistency | Factors | | Calendar Year | Mid-Year |
| | Calendar Year | Earned Premium | Paid Claims | Loss Ratio | Life Years | Earned Premium | Paid Claims | Loss Ratio | Rate Increase Factor | Benefit Downgrade | Policy Lapse & Mortality | Policy Shock Lapse | Policy Persistency | Premium Persistency | Effective Int Rate | Disc / Accum Factor |
| | 1989 | 73,088 | | 0.0% | 649 | 265,877 | | 0.0% | | | , | | | | 4.47% | 3.6378 |
| | 1990 1991 | 3,257,050 8.385,510 | 98,323 142,014 | 3.0% 1.7% | 9,365 27,399 | 11,340,863 27,947,297 | 342,354 473,305 | 3.0% 1.7% | | | | | | | 4.47% 4.47% | 3.4819 3.3328 |
| | 1992 | 13,462,425 | 1,315,222 | 9.8% | 34,519 | 42,945,965 | 4,195,638 | 9.8% | | | | | | | 4.47% | 3.1901 |
| | 1993 | 24,542,532 | 1,901,925 | 7.7% | 57,383 | 74,938,870 | 5,807,393 | 7.7% | | | | | | | 4.47% | 3.0534 |
| | 1994 1995 | 29,207,461 32,821,623 | 2,508,403 3,484,114 | 8.6% 10.6% | 59,284 63,893 | 85,363,121 91,817,454 | 7,331,179 9,746,699 | 8.6% 10.6% | | | | | | | 4.47% 4.47% | 2.9226 2.7975 |
| | 1996 | 36,225,167 | 6,221,356 | 17.2% | 76,547 | 96,998,343 | 16,658,619 | 17.2% | | | | | | | 4.47% | 2.6777 |
| | 1997 | 41,731,413 | 3,361,627 | 8.1% | 78,740 | 106,956,139 | 8,615,732 | 8.1% | | | | | | | 4.47% | 2.5630 |
| | 1998 1999 | 43,940,449 48,097,051 | 7,400,663 19,903,012 | 16.8% 41.4% | 82,595 95,693 | 107,794,308 112,937,587 | 18,155,238 46,734,635 | 16.8% 41.4% | | | | | | | 4.47% 4.47% | 2.4532 |
| | 2000 | 55,598,283 | 15,341,470 | 27.6% | 111,642 | 124,959,751 | 34,480,673 | 27.6% | | | | | | | 4.47% | 2.2475 |
| | 2001 | 66,614,492 | 23,296,986 | 35.0% | 138,474 | 143,306,604 | 50,118,403 | 35.0% | | | | | | | 4.47% | 2.1513 |
| Historical Experience | 2002 2003 | 76,962,588 84,734,429 | 25,824,880 27,262,857 | 33.6% 32.2% | 154,041 161,514 | 158,476,862 167.007.058 | 53,177,083 53,733,643 | 33.6% 32.2% | | | | | | | 4.47% 4.47% | 2.0591 1.9709 |
| | 2004 | 93,549,570 | 29,011,708 | 31.0% | 177,688 | 176,484,037 | 54,731,448 | 31.0% | | | | | | | 4.47% | 1.8865 |
| | 2005 | 106,389,491 | 33,953,523 | 31.9% | 193,671 | 192,110,489 | 61,310,830 | 31.9% | | | | | | | 4.47% | 1.8057 |
| | 2006 2007 | 121,561,825 132.858.561 | 35,342,958 45,028,895 | 29.1% 33.9% | 207,903 211.594 | 210,105,912 219,795,765 | 61,086,319 74,493,961 | 29.1% 33.9% | | | | | | | 4.47% 4.47% | 1.7284 1.6544 |
| | 2008 | 138,403,077 | 51,819,969 | 37.4% | 211,070 | 219,161,487 | 82,057,002 | 37.4% | | | | | | | 4.47% | 1.5835 |
| | 2009 2010 | 141,341,445 141,989,562 | 48,299,312 46,028,904 | 34.2% 32.4% | 199,029 193.053 | 214,228,247 205.992.943 | 73,206,249 66,776,946 | 34.2% 32.4% | | | | | | | 4.47% 4.47% | 1.5157 1.4508 |
| | 2010 | 142,889,041 | 50,689,248 | 35.5% | 187,553 | 198,419,139 | 70,388,302 | 35.5% | | | | | | | 4.47% | 1.3886 |
| | 2012 | 142,013,255 | 54,145,282 | 38.1% | 178,477 | 188,756,638 | 71,967,095 | 38.1% | | | | | | | 4.47% | 1.3291 |
| | 2013 2014 | 162,863,192 189,092,342 | 53,843,020 51,316,061 | 33.1% 27.1% | 170,629 165,636 | 207,197,738 230,263,300 | 68,500,143 62,489,075 | 33.1% 27.1% | | | | | | | 4.47% 4.47% | 1.2722 1.2177 |
| | 2014 | 187,270,622 | 56,233,400 | 30.0% | 160,865 | 218,277,590 | 65,544,136 | 30.0% | | | | | | | 4.47% | 1.1656 |
| | 2016 | 187,556,911 | 41,767,092 | 22.3% | 156,155 | 209,247,985 | 46,597,482 | 22.3% | | | | | | | 4.47% | 1.1157 |
| | 2017 2018 | 186,345,406 180,833,741 | 29,221,373 9,109,991 | 15.7% 5.0% | 151,817 147,355 | 198,992,000 184,835,382 | 31,204,523 9,311,585 | 15.7% 5.0% | | | | | | | 4.47% 4.47% | 1.0679 1.0221 |
| Projected | 2019 | 179,854,405 | 24,293,532 | 13.5% | 145,563 | 175,960,601 | 23,767,583 | 13.5% | 1.4356 | 1.00000 | 0.0122 | 1.0000 | 0.988 | 0.995 | 4.47% | 0.9784 |
| Future Experience | 2020 2021 | 175,938,204 175,488,901 | 57,471,121 86 416 601 | 32.7% 49.2% | 143,504 140,772 | 164,756,754 157,297,363 | 53,818,643 77 458 479 | 32.7% 49.2% | 1.4683 1.5335 | 1.00000 | 0.0141 0.0190 | 0.9970 | 0.986 | 0.959 0.958 | 4.47% 4.47% | 0.9364 |
| Expellence | 2021 | 167,297,162 | 112,273,948 | 67.1% | 138,972 | 143,532,113 | 96,325,106 | 67.1% | 1.5335 | 1.00000 | 0.0128 | 0.9940 | 0.987 | 0.956 | 4.47% | 0.8579 |
| | 2023 | 159,637,336 | 135,950,538 | 85.2% | 137,689 | 131,094,264 | 111,642,653 | 85.2% | 1.5335 | 1.00000 | 0.0092 | 0.9910 | 0.991 | 0.954 | 4.47% | 0.8212 |
| | 2024 | 151,942,395 144,211,678 | 156,364,147 175,333,930 | 102.9% 121.6% | 136,455 135,266 | 119,430,954 108.499.336 | 122,906,574 131,914,524 | 102.9% 121.6% | 1.5335 1.5335 | 1.00000 | 0.0090 | 0.9910 | 0.991 | 0.952 | 4.47% 4.47% | 0.7860 0.7524 |
| | 2026 | 136,508,346 | 192,098,529 | 140.7% | 134,103 | 98,304,765 | 138,337,334 | 140.7% | 1.5335 | 1.00000 | 0.0086 | 0.9910 | 0.991 | 0.947 | 4.47% | 0.7201 |
| | 2027 | 128,785,248 | 207,064,458 | 160.8% | 132,967 | 88,770,813 | 142,728,151 | 160.8% | 1.5335 | 1.00000 | 0.0085 | 0.9910 | 0.992 | 0.943 | 4.47% | 0.6893 |
| | 2028 2029 | 121,096,040 113,549,666 | 221,779,552 236,617,082 | 183.1% 208.4% | 131,855 130,762 | 79,895,576 71,707,960 | 146,323,572 149,426,492 | 183.1% 208.4% | 1.5335 1.5335 | 1.00000 | 0.0084 | 0.9910 0.9910 | 0.992 0.992 | 0.940 | 4.47% 4.47% | 0.6598 0.6315 |
| | 2030 | 106,087,794 | 251,215,982 | 236.8% | 129,666 | 64,126,220 | 151,850,941 | 236.8% | 1.5335 | 1.00000 | 0.0084 | 0.9910 | 0.992 | 0.934 | 4.47% | 0.6045 |
| | 2031 2032 | 98,744,357 91,569,924 | 265,532,780 279.685.419 | 268.9% 305.4% | 128,591 127,476 | 57,130,921 50,710,805 | 153,630,372 154,887,895 | 268.9% 305.4% | 1.5335 1.5335 | 1.00000 | 0.0083 0.0087 | 0.9910 0.9910 | 0.992 0.991 | 0.931 0.927 | 4.47% 4.47% | 0.5786 0.5538 |
| | 2032 | 84,554,521 | 293,515,052 | 347.1% | 126,359 | 44,820,139 | 155,584,649 | 347.1% | 1.5335 | 1.00000 | 0.0087 | 0.9910 | 0.991 | 0.927 | 4.47% | 0.5301 |
| | 2034 | 77,720,585 | 306,814,986 | 394.8% | 125,202 | 39,433,120 | 155,668,826 | 394.8% | 1.5335 | 1.00000 | 0.0092 | 0.9910 | 0.991 | 0.919 | 4.47% | 0.5074 |
| | 2035 2036 | 71,131,998 64.781.918 | 319,311,853 330,740,450 | 448.9% 510.5% | 123,961 122,687 | 34,544,492 30,113,159 | 155,070,375 153,741,044 | 448.9% 510.5% | 1.5335 1.5335 | 1.00000 | 0.0099 0.0103 | 0.9910 0.9910 | 0.990 | 0.915 0.911 | 4.47% 4.47% | 0.4856 0.4648 |
| | 2037 | 58,695,266 | 340,855,719 | 580.7% | 121,303 | 26,115,257 | 151,656,774 | 580.7% | 1.5335 | 1.00000 | 0.0113 | 0.9910 | 0.989 | 0.906 | 4.47% | 0.4449 |
| | 2038 | 52,948,233 | 349,501,724 | 660.1% | 119,852 | 22,549,214 | 148,843,292 | 660.1% | 1.5335 | 1.00000 | 0.0120 | 0.9910 | 0.988 | 0.902 | 4.47% | 0.4259 |
| | 2039 2040 | 47,527,280 42,450,259 | 356,419,951 361,350,728 | 749.9% 851.2% | 118,316 116,573 | 19,373,658 16,562,951 | 145,288,308 140,989,350 | 749.9% 851.2% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0128 0.0147 | 0.9910 0.9910 | 0.987 0.985 | 0.898 0.893 | 4.47% 4.47% | 0.4076 0.3902 |
| | 2041 | 37,726,198 | 364,151,645 | 965.2% | 114,771 | 14,089,291 | 135,996,698 | 965.2% | 1.5335 | 1.00000 | 0.0155 | 0.9910 | 0.985 | 0.889 | 4.47% | 0.3735 |
| | 2042 2043 | 33,356,826 29,341,343 | 364,773,964 363,209,500 | 1093.6% 1237.9% | 112,854 110,819 | 11,923,933 10,039,302 | 130,394,309 124,274,126 | 1093.6% 1237.9% | 1.5335 1.5335 | 1.00000 | 0.0167 0.0180 | 0.9910 0.9910 | 0.983 0.982 | 0.884 | 4.47% 4.47% | 0.3575 0.3422 |
| | 2043 | 25,675,132 | 359,483,272 | 1400.1% | 108,803 | 8,408,624 | 117,731,024 | 1400.1% | 1.5335 | 1.00000 | 0.0182 | 0.9910 | 0.982 | 0.875 | 4.47% | 0.3275 |
| | 2045 | 22,349,260 | 353,666,545 | 1582.5% | 106,647 | 7,005,903 | 110,865,119 | 1582.5% | 1.5335 | 1.00000 | 0.0198 | 0.9910 | 0.980 | 0.870 | 4.47% | 0.3135 |
| | 2046 2047 | 19,351,554 16,666,321 | 345,866,058 336,223,534 | 1787.3% 2017.4% | 104,412 102,117 | 5,806,381 4,786,501 | 103,776,163 96,562,052 | 1787.3% 2017.4% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0210 0.0220 | 0.9910 0.9910 | 0.979 0.978 | 0.866 0.861 | 4.47% 4.47% | 0.3000 0.2872 |
| | 2048 | 14,275,804 | 324,899,000 | 2275.9% | 99,591 | 3,924,349 | 89,313,163 | 2275.9% | 1.5335 | 1.00000 | 0.0247 | 0.9910 | 0.975 | 0.857 | 4.47% | 0.2749 |
| | 2049 2050 | 12,161,688 10.305,226 | 312,098,111 298,037,229 | 2566.2% 2892.1% | 96,933 94,059 | 3,199,998 2,595,387 | 82,119,623 75,061,120 | 2566.2% 2892.1% | 1.5335 1.5335 | 1.00000 | 0.0267 | 0.9910 | 0.973 | 0.852 0.847 | 4.47% 4.47% | 0.2631 |
| | 2051 | 8,685,198 | 282,955,577 | 3257.9% | 90,994 | 2,093,693 | 68,210,541 | 3257.9% | 1.5335 | 1.00000 | 0.0326 | 0.9910 | 0.967 | 0.843 | 4.47% | 0.2411 |
| | 2052 | 7,280,078 | 267,071,741 | 3668.5% | 87,512 | 1,679,802 | 61,624,001 | 3668.5% | 1.5335 | 1.00000 | 0.0383 | 0.9910 | 0.962 | 0.838 | 4.47% | 0.2307 |
| | 2053 2054 | 6,068,406 5.031,073 | 250,581,306 233,760,742 | 4129.3% 4646.3% | 83,489 79.488 | 1,340,248 1.063.555 | 55,342,572 49.416.384 | 4129.3% 4646.3% | 1.5335 1.5335 | 1.00000 | 0.0460 0.0479 | 0.9910 0.9910 | 0.954 0.952 | 0.834 0.829 | 4.47% 4.47% | 0.2209 0.2114 |
| | 2055 | 4,149,324 | 216,864,464 | 5226.5% | 75,514 | 839,586 | 43,880,998 | 5226.5% | 1.5335 | 1.00000 | 0.0500 | 0.9910 | 0.950 | 0.825 | 4.47% | 0.2023 |
| | 2056 2057 | 3,403,846 2,777,028 | 200,030,460 183,350,497 | 5876.6% 6602.4% | 71,413 66.030 | 659,245 514,809 | 38,741,189 33,989,723 | 5876.6% 6602.4% | 1.5335 1.5335 | 1.00000 1.00000 | 0.0543 0.0754 | 0.9910 0.9910 | 0.946 0.925 | 0.820 0.816 | 4.47% 4.47% | 0.1937 0.1854 |
| | 2057 | 2,777,028 | 167,089,162 | 7416.4% | 61,007 | 399,769 | 29,648,486 | 7416.4% | 1.5335 | 1.00000 | 0.0761 | 0.9910 | 0.925 | 0.816 | 4.47% | 0.1854 |
| | 2059 | 1,817,711 | 151,467,339 | 8332.9% | 56,256 | 308,722 | 25,725,389 | 8332.9% | 1.5335 | 1.00000 | 0.0779 | 0.9910 | 0.922 | 0.807 | 4.47% | 0.1698 |
| | 2060 2061 | 1,458,643 1,164,065 | 136,565,573 122,413,519 | 9362.5% 10516.0% | 51,700 47,267 | 237,127 181.133 | 22,201,019 19.048.017 | 9362.5% 10516.0% | 1.5335 1.5335 | 1.00000 | 0.0810 0.0857 | 0.9910 0.9910 | 0.919 0.914 | 0.802 0.798 | 4.47% 4.47% | 0.1626 0.1556 |
| | 2062 | 924,080 | 109,098,852 | 11806.2% | 42,865 | 137,632 | 16,249,099 | 11806.2% | 1.5335 | 1.00000 | 0.0931 | 0.9910 | 0.907 | 0.794 | 4.47% | 0.1489 |
| | 2063 | 729,499 | 96,702,343 | 13256.0% | 38,725 | 103,997 | 13,785,890 | 13256.0% | 1.5335 | 1.00000 | 0.0966 | 0.9910 | 0.903 | 0.789 | 4.47% | 0.1426 |
| | 2064 2065 | 572,641 447,131 | 85,221,519 74,672,325 | 14882.2% 16700.3% | 34,717 30,828 | 78,139 58,400 | 11,628,824 9,752,926 | 14882.2% 16700.3% | 1.5335 1.5335 | 1.00000 | 0.1035 0.1120 | 0.9910 0.9910 | 0.896 0.888 | 0.785 0.781 | 4.47% 4.47% | 0.1365 0.1306 |
| | 2066 | 347,316 | 65,039,532 | 18726.3% | 27,265 | 43,420 | 8,130,952 | 18726.3% | 1.5335 | 1.00000 | 0.1156 | 0.9910 | 0.884 | 0.777 | 4.47% | 0.1250 |
| | 2067 2068 | 268,366 206,274 | 56,339,242 48.501.889 | 20993.4% 23513.4% | 23,886 20.707 | 32,113 23.626 | 6,741,611 5.555,204 | 20993.4% 23513.4% | 1.5335 1.5335 | 1.00000 | 0.1239 0.1331 | 0.9910 0.9910 | 0.876 0.867 | 0.773 0.769 | 4.47% 4.47% | 0.1197 0.1145 |
| | 2069 | 157,738 | 41,510,524 | 26316.2% | 17,909 | 17,293 | 4,550,806 | 26316.2% | 1.5335 | 1.00000 | 0.1351 | 0.9910 | 0.865 | 0.765 | 4.47% | 0.1096 |
| | 2070+ | 414,969 | 165,019,411 | 39766.7% | 15,294 | 43,545 | 17,316,250 | 39766.7% | 1.5335 | 1.00000 | 0.1460 | 0.9910 | 0.854 | N/A | 4.47% | 0.1049 |
| | Past | 2,820,611,603 | 773,873,589 | 27.4% | 3,864,233 | 4,426,924,751 | 1,209,235,689 | 27.3% | | | | | | | | |
| | Future | 2,719,887,224 | 11,437,272,957 | 420.5% | 4,941,767 | 1,826,365,954 | 4,469,494,214 | 244.7% | | | | | | | | |
| | Lifetime | 5,540,498,827 | 12,211,146,546 | 220.4% | 8,806,000 | 6,253,290,705 | 5,678,729,903 | 90.8% | | | | | | | | |

Lifetime 5.540,498.827 12.211,146.546 220.4% 8,806.000 6,253.290,705 5,678,729,903 90.8% Note:

- The premiums shown in this exhibit are normalized to reflect prior rate inreases authorized by Pennsylvania rather than that authorized by other states.
- The projections are based on the assumptions derived using experience data through 6/30/2018.

The current requested increases of 6.82% is assumed to be implemented starting 9/1/2020.

Attachment 9-B Metropolitan Life Insurance Company Pennsylvania Experience Projections (Premium Include Prior Authorized Increases)

| | | | | Lose Da | ntio Demonst | ration | | | Fact | ors Derived fr | om Projected Value | s for Illustrat | ive Purnosce | Only | Interest Ra | te Factors |
|------------|------------------|----------------------------|---------------------------|----------------------|--------------------|---------------------------|---------------------------|----------------------|-------------------------|----------------------|-----------------------------|-----------------------|-----------------------|------------------------|-----------------------|------------------------|
| | | V | Vithout Interest | | | | With Interest | | Premium | | | Persistency | Factors | | Calendar Year | Mid-Year |
| | Calendar Year | Earned Premium | Paid Claims | Loss Ratio | Life Years | Earned Premium | Paid Claims | Loss Ratio | Rate Increase Factor | Benefit Downgrade | Policy Lapse & Mortality | Policy Shock Lapse | Policy Persistency | Premium Persistency | Effective Int Rate | Disc / Accum Factor |
| | 1989 | | - | N/A | - | - | | N/A | | | | | | , | 4.47% | 3.6378 |
| | 1990 1991 | | : | N/A N/A | : | | | N/A N/A | | | | | | | 4.47% 4.47% | 3.4819 3.3328 |
| | 1992 | | | N/A | | | | N/A | | | | | | | 4.47% | 3.1901 |
| | 1993 1994 | | | N/A N/A | - | | | N/A N/A | | | | | | | 4.47% 4.47% | 3.0534 2.9226 |
| | 1995 | | - | N/A | | | | N/A | | | | | | | 4.47% | 2.7975 |
| | 1996 1997 | - | - | N/A N/A | - | - | - | N/A N/A | | | | | | | 4.47% 4.47% | 2.6777 2.5630 |
| | 1997 | | | N/A | | | | N/A | | | | | | | 4.47% | 2.4532 |
| | 1999 | 71,094 | | 0.0% | 324 | 166,936 | | 0.0% | | | | | | | 4.47% | 2.3481 |
| | 2000 2001 | 467,489 833.510 | 1,025 408.469 | 0.2% 49.0% | 1,468 1.825 | 1,050,703 1,793,116 | 2,304 878.733 | 0.2% 49.0% | | | | | | | 4.47% 4.47% | 2.2475 2.1513 |
| Historical | 2002 | 1,010,600 | 33,979 | 3.4% | 2,811 | 2,080,968 | 69,968 | 3.4% | | | | | | | 4.47% | 2.0591 |
| Experience | 2003 2004 | 1,727,834 2,659,254 | 2,902 413,895 | 0.2% 15.6% | 4,005 5,075 | 3,405,469 5,016,761 | 5,719 780,825 | 0.2% 15.6% | | | | | | | 4.47% 4.47% | 1.9709 1.8865 |
| | 2005 | 5,407,385 | 1,025,526 | 19.0% | 7,965 | 9,764,266 | 1,851,821 | 19.0% | | | | | | | 4.47% | 1.8057 |
| | 2006 | 8,054,419 8,002,695 | 1,721,859 2,737.692 | 21.4% | 8,115 8.046 | 13,921,156 13,239,330 | 2,976,039 4,529,126 | 21.4% 34.2% | | | | | | | 4.47% 4.47% | 1.7284 1.6544 |
| | 2008 | 8,468,091 | 1,872,343 | 22.1% | 8,660 | 13,409,236 | 2,964,859 | 22.1% | | | | | | | 4.47% | 1.5835 |
| | 2009 2010 | 8,649,057 8,397,807 | 4,714,177 1,169,764 | 54.5% 13.9% | 8,358 8,236 | 13,109,193 12,183,213 | 7,145,178 1,697,048 | 54.5% 13.9% | | | | | | | 4.47% 4.47% | 1.5157 1.4508 |
| | 2011 | 8,220,240 | 1,801,122 | 21.9% | 7,927 | 11,414,822 | 2,501,081 | 21.9% | | | | | | | 4.47% | 1.3886 |
| | 2012 2013 | 7,831,661 8,670,849 | 2,558,397 2,354,141 | 32.7% 27.2% | 7,502 7,032 | 10,409,437 11,031,224 | 3,400,489 2,994,984 | 32.7% 27.2% | | | | | | | 4.47% 4.47% | 1.3291 1.2722 |
| | 2014 | 9,869,254 | 2,352,917 | 23.8% | 6,822 | 12,018,081 | 2,865,216 | 23.8% | | | | | | | 4.47% | 1.2177 |
| | 2015 2016 | 9,562,284 9,351,568 | 1,489,056 1,527,965 | 15.6% 16.3% | 6,668 6,482 | 11,145,540 10,433,083 | 1,735,603 1,704,675 | 15.6% 16.3% | | | | | | | 4.47% 4.47% | 1.1656 1.1157 |
| | 2017 | 9,183,735 | 969,322 | 10.6% | 6,366 | 9,807,002 | 1,035,107 | 10.6% | | | | | | | 4.47% | 1.0679 |
| Projected | 2018 2019 | 8,834,882 8,699,916 | 144,949 723,877 | 1.6% 8.3% | 6,230 6,149 | 9,030,387 8,511,564 | 148,157 708,205 | 1.6% 8.3% | 1.4356 | N/A | 0.0131 | N/A | 0.987 | 0.985 | 4.47% 4.47% | 1.0221 0.9784 |
| Future | 2020 | 8,318,096 | 2,040,694 | 24.5% | 6,075 | 7,789,454 | 1,911,001 | 24.5% | 1.4356 | N/A | 0.0119 | N/A | 0.988 | | 4.47% | 0.9364 |
| Experience | 2021 2022 | 7,940,325 7,560,271 | 3,194,049 4,239,169 | 40.2% 56.1% | 5,973 5,911 | 7,117,215 6,486,312 | 2,862,948 3,636,982 | 40.2% 56.1% | 1.4356 1.4356 | N/A N/A | 0.0169 0.0102 | N/A N/A | 0.983 0.990 | 0.955 0.952 | 4.47% 4.47% | 0.8963 0.8579 |
| | 2022 | 7,184,617 | 5,202,317 | 72.4% | 5,855 | 5,900,012 | 4,272,146 | 72.4% | 1.4356 | N/A | 0.0102 | N/A | 0.990 | | 4.47% | 0.8212 |
| | 2024 | 6,809,792 | 6,070,439 | 89.1% | 5,800 | 5,352,686 | 4,771,534 | 89.1% | 1.4356 | N/A | 0.0094 | N/A | 0.991 | 0.948 | 4.47% | 0.7860 |
| | 2025 2026 | 6,434,126 6,064,942 | 6,889,135 7,614,784 | 107.1% 125.6% | 5,747 5,696 | 4,840,789 4,367,591 | 5,183,121 5,483,691 | 107.1% 125.6% | 1.4356 1.4356 | N/A N/A | 0.0091 | N/A N/A | 0.991 0.991 | 0.945 0.943 | 4.47% 4.47% | 0.7524 0.7201 |
| | 2027 | 5,703,221 | 8,274,901 | 145.1% | 5,646 | 3,931,192 | 5,703,834 | 145.1% | 1.4356 | N/A | 0.0088 | N/A | 0.991 | 0.940 | 4.47% | 0.6893 |
| | 2028 2029 | 5,351,349 5,009,499 | 8,945,921 9.641,402 | 167.2% 192.5% | 5,597 5,549 | 3,530,662 3,163,558 | 5,902,254 6.088,660 | 167.2% 192.5% | 1.4356 1.4356 | N/A N/A | 0.0087 | N/A N/A | 0.991 0.992 | 0.938 | 4.47% 4.47% | 0.6598 0.6315 |
| | 2030 | 4,675,896 | 10,340,940 | 221.2% | 5,499 | 2,826,409 | 6,250,723 | 221.2% | 1.4356 | N/A | 0.0090 | N/A | 0.991 | 0.933 | 4.47% | 0.6045 |
| | 2031 2032 | 4,350,735 4.034.431 | 11,046,549 11,771,134 | 253.9% 291.8% | 5,452 5.401 | 2,517,222 2,234,240 | 6,391,246 6,518,774 | 253.9% 291.8% | 1.4356 1.4356 | N/A N/A | 0.0086 | N/A N/A | 0.991 | 0.930 0.927 | 4.47% 4.47% | 0.5786 0.5538 |
| | 2033 | 3,727,094 | 12,506,222 | 335.5% | 5,356 | 1,975,635 | 6,629,221 | 335.5% | 1.4356 | N/A | 0.0083 | N/A | 0.992 | 0.924 | 4.47% | 0.5301 |
| | 2034 2035 | 3,429,604 3,142,201 | 13,239,062 13,959,056 | 386.0% 444.2% | 5,300 5,247 | 1,740,079 1,525,976 | 6,717,108 6,779,066 | 386.0% 444.2% | 1.4356 1.4356 | N/A N/A | 0.0104 | N/A N/A | 0.990 0.990 | 0.920 0.916 | 4.47% 4.47% | 0.5074 0.4856 |
| | 2036 | 2,865,109 | 14,652,858 | 511.4% | 5,195 | 1,331,814 | 6,811,219 | 511.4% | 1.4356 | N/A | 0.0099 | N/A | 0.990 | 0.912 | 4.47% | 0.4648 |
| | 2037 2038 | 2,599,766 2.347.307 | 15,302,207 15,892,833 | 588.6% 677.1% | 5,142 5.086 | 1,156,713 999.654 | 6,808,404 6,768,326 | 588.6% 677.1% | 1.4356 1.4356 | N/A N/A | 0.0103 | N/A N/A | 0.990 0.989 | 0.907 0.903 | 4.47% 4.47% | 0.4449 0.4259 |
| | 2039 | 2,108,382 | 16,409,005 | 778.3% | 5,028 | 859,445 | 6,688,842 | 778.3% | 1.4356 | N/A | 0.0113 | N/A | 0.989 | 0.898 | 4.47% | 0.4076 |
| | 2040 2041 | 1,883,918 1,674,421 | 16,833,138 17,150,188 | 893.5% 1024.2% | 4,967 4,905 | 735,054 625,332 | 6,567,838 6,404,939 | 893.5% 1024.2% | 1.4356 1.4356 | N/A N/A | 0.0121 0.0125 | N/A N/A | 0.988 0.987 | 0.894 | 4.47% 4.47% | 0.3902 0.3735 |
| | 2041 | 1,480,171 | 17,353,480 | 1172.4% | 4,841 | 529,111 | 6,203,280 | 1172.4% | 1.4356 | N/A | 0.0123 | N/A | 0.987 | 0.884 | 4.47% | 0.3575 |
| | 2043 2044 | 1,301,194 1,137,420 | 17,439,371 17,407,718 | 1340.3% 1530.5% | 4,769 4,702 | 445,211 372,506 | 5,966,977 5,701,040 | 1340.3% 1530.5% | 1.4356 1.4356 | N/A N/A | 0.0149 0.0140 | N/A N/A | 0.985 0.986 | 0.879 0.874 | 4.47% 4.47% | 0.3422 0.3275 |
| | 2045 | 988,775 | 17,257,299 | 1745.3% | 4,628 | 309,955 | 5,409,707 | 1745.3% | 1.4356 | N/A | 0.0159 | N/A | 0.984 | 0.869 | 4.47% | 0.3135 |
| | 2046 2047 | 854,733 734,726 | 16,990,254 16,606,568 | 1987.8% 2260.2% | 4,559 4.487 | 256,460 211.010 | 5,097,879 4,769,340 | 1987.8% 2260.2% | 1.4356 1.4356 | N/A N/A | 0.0149 | N/A N/A | 0.985 | 0.864 | 4.47% 4.47% | 0.3000 |
| | 2048 | 628,120 | 16,113,662 | 2565.4% | 4,401 | 172,667 | 4,429,568 | 2565.4% | 1.4356 | N/A | 0.0191 | N/A | 0.981 | 0.855 | 4.47% | 0.2749 |
| | 2049 2050 | 533,968 451,426 | 15,528,500 14,862,297 | 2908.1% 3292.3% | 4,296 4,183 | 140,498 113,692 | 4,085,877 3,743,092 | 2908.1% 3292.3% | 1.4356 1.4356 | N/A N/A | 0.0238 0.0265 | N/A N/A | 0.976 0.973 | 0.850 0.845 | 4.47% 4.47% | 0.2631 0.2519 |
| | 2050 | 451,426 379,516 | 14,862,297 | 3292.3% 3722.6% | 4,183 4,068 | 113,692 91,488 | 3,743,092 3,405,687 | 3292.3% 3722.6% | 1.4356 | N/A N/A | 0.0265 | N/A N/A | 0.973 | | 4.47% 4.47% | 0.2519 |
| | 2052 2053 | 317,283 263,772 | 13,344,414 12,522,857 | 4205.8% 4747.6% | 3,939 3,798 | 73,210 58.256 | 3,079,083 | 4205.8% 4747.6% | 1.4356 1.4356 | N/A N/A | 0.0318 0.0359 | N/A N/A | 0.968 0.964 | 0.836 0.831 | 4.47% 4.47% | 0.2307 0.2209 |
| | 2053 2054 | 263,772 218,030 | 12,522,857 11,678,520 | 4747.6% 5356.4% | 3,798 3,649 | 58,256 46,091 | 2,765,757 2,468,807 | 4747.6% 5356.4% | 1.4356 1.4356 | N/A N/A | 0.0359 0.0393 | N/A N/A | 0.964 0.961 | | 4.47% 4.47% | 0.2209 0.2114 |
| | 2055 | 179,235 | 10,824,071 | 6039.0% | 3,502 | 36,267 | 2,190,175 | 6039.0% | 1.4356 | N/A | 0.0402 | N/A | 0.960 | 0.822 | 4.47% | 0.2023 |
| | 2056 2057 | 146,523 119.099 | 9,968,274 9,117,435 | 6803.2% 7655.4% | 3,323 | 28,378 22,079 | 1,930,620 1,690,200 | 6803.2% 7655.4% | 1.4356 1.4356 | N/A N/A | 0.0511 | N/A N/A | 0.949 0.933 | 0.817 | 4.47% 4.47% | 0.1937 0.1854 |
| | 2058 | 96,221 | 8,285,547 | 8610.9% | 2,844 | 17,074 | 1,470,197 | 8610.9% | 1.4356 | N/A | 0.0825 | N/A | 0.918 | 0.808 | 4.47% | 0.1774 |
| | 2059 2060 | 77,244 61.651 | 7,477,263 6,705,752 | 9680.0% 10877.0% | 2,611 2,398 | 13,119 10.022 | 1,269,947 1,090,132 | 9680.0% 10877.0% | 1.4356 1.4356 | N/A N/A | 0.0818 0.0817 | N/A N/A | 0.918 0.918 | 0.803 0.798 | 4.47% 4.47% | 0.1698 0.1626 |
| | 2061 | 48,879 | 5,974,522 | 12223.2% | 2,183 | 7,606 | 929,659 | 12223.2% | 1.4356 | N/A | 0.0896 | N/A | 0.910 | 0.793 | 4.47% | 0.1556 |
| | 2062 2063 | 38,555 30,217 | 5,288,904 4,649,082 | 13718.0% 15385.9% | 1,976 1,764 | 5,742 4,308 | 787,725 662,773 | 13718.0% 15385.9% | 1.4356 1.4356 | N/A N/A | 0.0949 0.1073 | N/A N/A | 0.905 0.893 | 0.789 0.784 | 4.47% 4.47% | 0.1489 0.1426 |
| | 2063 | 23,528 | 4,057,823 | 17246.4% | 1,764 | 4,308 3,211 | 553,706 | 17246.4% | 1.4356 | N/A N/A | 0.1073 | N/A N/A | 0.893 | 0.784 | 4.47% | 0.1426 |
| | 2065 2066 | 18,198 13,988 | 3,516,075 3,024,085 | 19321.5% 21618.7% | 1,362 1,193 | 2,377 1,749 | 459,233 378,058 | 19321.5% 21618.7% | 1.4356 1.4356 | N/A N/A | 0.1296 0.1235 | N/A N/A | 0.870 0.876 | 0.773 0.769 | 4.47% 4.47% | 0.1306 0.1250 |
| | 2066 | 13,988 10,677 | 3,024,085 2,589,482 | 21618.7% | 1,193 | 1,749 1,278 | 378,058 309,860 | 21618.7% 24252.1% | 1.4356 | N/A N/A | 0.1235 | N/A N/A | 0.876 | | 4.47% 4.47% | 0.1250 |
| | 2068 | 8,093 | 2,192,020 | 27084.6% | 901 | 927 | 251,065 | 27084.6% | 1.4356 | N/A | 0.1438 | N/A | 0.856 | 0.758 | 4.47% | 0.1145 |
| | 2069 2070+ | 6,086 14,712 | 1,855,818 6,954,896 | 30493.5% 47274.6% | 781 678 | 667 1,544 | 203,454 729,809 | 30493.5% 47274.6% | 1.4356 1.4356 | N/A N/A | 0.1334 0.1324 | N/A N/A | 0.867 0.868 | 0.752 N/A | 4.47% 4.47% | 0.1096 0.1049 |
| | D | 405.070.77 | 07.000: | 04.00** | 440.04= | 474 400 | 20 202 | 00.5 | | | | | | | | |
| | Past Future | 125,273,708 122,097,058 | 27,299,501 525,653,568 | 21.8% 430.5% | 119,917 214,125 | 174,429,924 82,495,112 | 39,286,932 197,892,789 | 22.5% 239.9% | | | | | | | | |
| Mater | Lifetime | 247,370,766 | 552,953,069 | 223.5% | 334,042 | 256,925,036 | 237,179,720 | 92.3% | | | | | | | | |

Note:

The premiums shown in this exhibit reflect prior rate inreases authorized by Pennsylvania.

The projections are based on the assumptions derived using experience data through 6/30/2018.

Attachment 9-B Metropolitan Life Insurance Company Pennsylvania Experience Projections (Premium Houlder Prior Authorized Increases) and With 6.83% Future Increase

| _ | | | | Lose Pa | ntio Demonst | ration | | | Eact | ore Dariyad fr | om Projected Value | e for Illustrat | ivo Durnoege | Only | Interest Ra | to Eactore |
|------------|--------------------|----------------------------|----------------------------|----------------------|--------------------|---------------------------|----------------------------|----------------------|-------------------------|----------------------|-----------------------------|-----------------------|-----------------------|------------------------|-----------------------|------------------------|
| | | V | Vithout Interest | | | | With Interest | | Premium | DIS Derived II | | Persistency | Factors | | Calendar Year | Mid-Year |
| | Calendar Year | Earned Premium | Paid Claims | Loss Ratio | Life Years | Earned Premium | Paid Claims | Loss Ratio | Rate Increase Factor | Benefit Downgrade | Policy Lapse & Mortality | Policy Shock Lapse | Policy Persistency | Premium Persistency | Effective Int Rate | Disc / Accum Factor |
| | 1989 | - Telliani | Cidillis | N/A | - | - Tremium | Cidillis - | N/A | i accoi | Downgrade | Lapse & Wortanty | OHOUR Lapse | 1 erasatericy | 1 disistency | 4.47% | 3.6378 |
| | 1990 | | | N/A | - | - | | N/A | | | | | | | 4.47% | 3.4819 |
| | 1991 1992 | | | N/A N/A | | | | N/A N/A | | | | | | | 4.47% 4.47% | 3.3328 3.1901 |
| | 1993 | | | N/A | | | | N/A | | | | | | | 4.47% | 3.0534 |
| | 1994 1995 | | | N/A N/A | - | | | N/A N/A | | | | | | | 4.47% 4.47% | 2.9226 2.7975 |
| | 1995 | | | N/A | | | | N/A | | | | | | | 4.47% | 2.6777 |
| | 1997 1998 | - | | N/A N/A | - | | - | N/A N/A | | | | | | | 4.47% 4.47% | 2.5630 2.4532 |
| | 1998 | 71,094 | | 0.0% | 324 | 166,936 | | 0.0% | | | | | | | 4.47% | 2.4532 |
| | 2000 | 467,489 | 1,025 | 0.2% | 1,468 | 1,050,703 | 2,304 | 0.2% | | | | | | | 4.47% | 2.2475 |
| Historical | 2001 | 833,510 1,010,600 | 408,469 33,979 | 49.0% | 1,825 2,811 | 1,793,116 2,080,968 | 878,733 69,968 | 49.0% 3.4% | | | | | | | 4.47% 4.47% | 2.1513 |
| Experience | 2002 | 1,727,834 | 2,902 | 0.2% | 4,005 | 3,405,469 | 5,719 | 0.2% | | | | | | | 4.47% | 1.9709 |
| | 2004 2005 | 2,659,254 5,407,385 | 413,895 1.025,526 | 15.6% 19.0% | 5,075 7.965 | 5,016,761 9.764,266 | 780,825 1.851.821 | 15.6% 19.0% | | | | | | | 4.47% 4.47% | 1.8865 1.8057 |
| | 2005 | 5,407,385 8,054,419 | 1,025,526 | 21.4% | 8,115 | 13,921,156 | 2,976,039 | 21.4% | | | | | | | 4.47% | 1.7284 |
| | 2007 | 8,002,695 | 2,737,692 | 34.2% | 8,046 | 13,239,330 | 4,529,126 | 34.2% | | | | | | | 4.47% | 1.6544 |
| | 2008 2009 | 8,468,091 8,649,057 | 1,872,343 4,714,177 | 22.1% 54.5% | 8,660 8,358 | 13,409,236 13,109,193 | 2,964,859 7,145,178 | 22.1% 54.5% | | | | | | | 4.47% 4.47% | 1.5835 1.5157 |
| | 2010 | 8,397,807 | 1,169,764 | 13.9% | 8,236 | 12,183,213 | 1,697,048 | 13.9% | | | | | | | 4.47% | 1.4508 |
| | 2011 | 8,220,240 | 1,801,122 | 21.9% | 7,927 | 11,414,822 | 2,501,081 | 21.9% | | | | | | | 4.47% | 1.3886 |
| | 2012 2013 | 7,831,661 8,670,849 | 2,558,397 2,354,141 | 32.7% 27.2% | 7,502 7,032 | 10,409,437 11,031,224 | 3,400,489 2,994,984 | 32.7% 27.2% | | | | | | | 4.47% 4.47% | 1.3291 1.2722 |
| | 2014 | 9,869,254 | 2,352,917 | 23.8% | 6,822 | 12,018,081 | 2,865,216 | 23.8% | | | | | | | 4.47% | 1.2177 |
| | 2015 2016 | 9,562,284 9,351,568 | 1,489,056 1,527,965 | 15.6% 16.3% | 6,668 6,482 | 11,145,540 10,433,083 | 1,735,603 1,704,675 | 15.6% 16.3% | | | | | | | 4.47% 4.47% | 1.1656 1.1157 |
| | 2017 | 9,183,735 | 969,322 | 10.6% | 6,366 | 9,807,002 | 1,035,107 | 10.6% | | | | | | | 4.47% | 1.0679 |
| Projected | 2018 2019 | 8,834,882 8,699,916 | 144,949 723,877 | 1.6% 8.3% | 6,230 6,149 | 9,030,387 8.511.564 | 148,157 708.205 | 1.6% 8.3% | 1.4356 | 1.00000 | 0.0131 | 1.0000 | 0.987 | 0.985 | 4.47% 4.47% | 1.0221 |
| Future | 2019 | 8,481,672 | 2,034,572 | 24.0% | 6,057 | 7,942,634 | 1,905,268 | 24.0% | 1.4356 | 1.00000 | 0.0131 | 0.9970 | 0.987 | 0.985 | 4.47% | 0.9364 |
| Experience | 2021 | 8,430,964 | 3,174,885 | 37.7% | 5,937 | 7,556,993 | 2,845,770 | 37.7% | 1.5335 | 1.00000 | 0.0198 | 0.9940 | 0.980 | 0.955 | 4.47% | 0.8963 |
| | 2022 2023 | 8,003,198 7.605.537 | 4,201,016 5,155,496 | 52.5% 67.8% | 5,858 5,802 | 6,866,321 6,245,671 | 3,604,250 4,233,696 | 52.5% 67.8% | 1.5335 1.5335 | 1.00000 | 0.0132 0.0096 | 0.9910 0.9910 | | 0.952 0.950 | 4.47% 4.47% | 0.8579 0.8212 |
| | 2024 | 7,208,752 | 6,015,805 | 83.5% | 5,747 | 5,666,280 | 4,728,590 | 83.5% | 1.5335 | 1.00000 | 0.0094 | 0.9910 | 0.991 | 0.948 | 4.47% | 0.7860 |
| | 2025 | 6,811,077 | 6,827,133 | 100.2% | 5,695 | 5,124,393 | 5,136,473 | 100.2% | 1.5335 | 1.00000 | 0.0091 | 0.9910 | 0.991 | 0.945 | 4.47% 4.47% | 0.7524 |
| | 2026 2027 | 6,420,264 6,037,351 | 7,546,251 8,200,427 | 117.5% 135.8% | 5,644 5,595 | 4,623,472 4,161,506 | 5,434,338 5,652,500 | 117.5% 135.8% | 1.5335 1.5335 | 1.00000 | 0.0089 0.0088 | 0.9910 0.9910 | 0.991 0.991 | 0.943 0.940 | 4.47% | 0.7201 0.6893 |
| | 2028 | 5,664,865 | 8,865,408 | 156.5% | 5,546 | 3,737,510 | 5,849,133 | 156.5% | 1.5335 | 1.00000 | 0.0087 | 0.9910 | | 0.938 | 4.47% | 0.6598 |
| | 2029 | 5,302,986 4,949,839 | 9,554,629 10,247,871 | 180.2% 207.0% | 5,499 5.450 | 3,348,899 2,991,998 | 6,033,862 6,194,466 | 180.2% 207.0% | 1.5335 1.5335 | 1.00000 | 0.0085 0.0090 | 0.9910 | 0.992 | 0.936 | 4.47% 4.47% | 0.6315 |
| | 2031 | 4,605,628 | 10,947,130 | 237.7% | 5,403 | 2,664,697 | 6,333,725 | 237.7% | 1.5335 | 1.00000 | 0.0086 | 0.9910 | 0.991 | 0.930 | 4.47% | 0.5786 |
| | 2032 2033 | 4,270,793 3,945,451 | 11,665,193 12,393,666 | 273.1% 314.1% | 5,352 5,308 | 2,365,136 2.091,380 | 6,460,105 6,569,558 | 273.1% 314.1% | 1.5335 1.5335 | 1.00000 | 0.0094 0.0083 | 0.9910 0.9910 | 0.991 0.992 | 0.927 0.924 | 4.47% 4.47% | 0.5538 0.5301 |
| | 2033 | 3,630,531 | 13,119,911 | 361.4% | 5,253 | 1,842,024 | 6,656,654 | 361.4% | 1.5335 | 1.00000 | 0.0104 | 0.9910 | 0.992 | 0.924 | 4.47% | 0.5074 |
| | 2035 | 3,326,290 | 13,833,425 | 415.9% | 5,200 | 1,615,377 | 6,718,054 | 415.9% | 1.5335 | 1.00000 | 0.0100 | 0.9910 | 0.990 | 0.916 | 4.47% | 0.4856 |
| | 2036 2037 | 3,032,965 2,752,076 | 14,520,983 15,164,487 | 478.8% 551.0% | 5,149 5,096 | 1,409,840 1,224,480 | 6,749,918 6,747,128 | 478.8% 551.0% | 1.5335 1.5335 | 1.00000 | 0.0099 0.0103 | 0.9910 0.9910 | 0.990 | 0.912 0.907 | 4.47% 4.47% | 0.4648 0.4449 |
| | 2038 | 2,484,827 | 15,749,798 | 633.8% | 5,040 | 1,058,220 | 6,707,411 | 633.8% | 1.5335 | 1.00000 | 0.0109 | 0.9910 | 0.989 | 0.903 | 4.47% | 0.4259 |
| | 2039 2040 | 2,231,904 1,994,290 | 16,261,324 16,681,640 | 728.6% 836.5% | 4,983 4,923 | 909,796 778,118 | 6,628,642 6.508,728 | 728.6% 836.5% | 1.5335 1.5335 | 1.00000 | 0.0113 0.0121 | 0.9910 0.9910 | 0.989 | 0.898 0.894 | 4.47% 4.47% | 0.4076 0.3902 |
| | 2040 | 1,772,519 | 16,995,837 | 958.9% | 4,861 | 661,968 | 6,347,294 | 958.9% | 1.5335 | 1.00000 | 0.0121 | 0.9910 | | 0.889 | 4.47% | 0.3735 |
| | 2042 | 1,566,889 | 17,197,298 | 1097.5% | 4,798 | 560,110 | 6,147,450 | 1097.5% | 1.5335 | 1.00000 | 0.0130 | 0.9910 | 0.987 | 0.884 | 4.47% | 0.3575 |
| | 2043 2044 | 1,377,426 1,204,057 | 17,282,417 17,251,049 | 1254.7% 1432.7% | 4,726 4,660 | 471,294 394,330 | 5,913,274 5,649,731 | 1254.7% 1432.7% | 1.5335 1.5335 | 1.00000 | 0.0149 0.0140 | 0.9910 0.9910 | 0.985 0.986 | 0.879 0.874 | 4.47% 4.47% | 0.3422 0.3275 |
| | 2045 | 1,046,704 | 17,101,983 | 1633.9% | 4,586 | 328,114 | 5,361,020 | 1633.9% | 1.5335 | 1.00000 | 0.0159 | 0.9910 | 0.984 | 0.869 | 4.47% | 0.3135 |
| | 2046 2047 | 904,808 777,771 | 16,837,341 16,457,109 | 1860.9% 2115.9% | 4,517 4,446 | 271,485 223.373 | 5,051,998 4,726,416 | 1860.9% 2115.9% | 1.5335 1.5335 | 1.00000 | 0.0149 0.0158 | 0.9910 | 0.985 | 0.864 | 4.47% 4.47% | 0.3000 |
| | 2048 | 664,919 | 15,968,639 | 2401.6% | 4,361 | 182,783 | 4,389,702 | 2401.6% | 1.5335 | 1.00000 | 0.0191 | 0.9910 | 0.981 | 0.855 | 4.47% | 0.2749 |
| | 2049 2050 | 565,251 477,873 | 15,388,743 14,728,537 | 2722.5% 3082.1% | 4,258 | 148,730 120,353 | 4,049,104 3,709,404 | 2722.5% 3082.1% | 1.5335 1.5335 | 1.00000 | 0.0238 0.0265 | 0.9910 0.9910 | 0.976 0.973 | 0.850 0.845 | 4.47% 4.47% | 0.2631 0.2519 |
| | 2050 | 477,873 | 14,728,537 | 3082.1% 3484.9% | 4,145 4,032 | 120,353 96,848 | 3,709,404 | 3082.1% 3484.9% | 1.5335 | 1.00000 | 0.0265 | 0.9910 | 0.973 | 0.845 | 4.47% | 0.2519 |
| | 2052 | 335,872 | 13,224,314 | 3937.3% | 3,904 | 77,499 | 3,051,372 | 3937.3% | 1.5335 | 1.00000 | 0.0318 | 0.9910 | 0.968 | 0.836 | 4.47% | 0.2307 |
| | 2053 2054 | 279,226 230,803 | 12,410,151 11,573,413 | 4444.5% 5014.4% | 3,764 3,616 | 61,669 48,791 | 2,740,866 2,446,588 | 4444.5% 5014.4% | 1.5335 1.5335 | 1.00000 | 0.0359 0.0393 | 0.9910 0.9910 | 0.964 0.961 | 0.831 0.827 | 4.47% 4.47% | 0.2209 0.2114 |
| | 2055 | 189,736 | 10,726,654 | 5653.5% | 3,470 | 38,392 | 2,170,463 | 5653.5% | 1.5335 | 1.00000 | 0.0402 | 0.9910 | 0.960 | 0.822 | 4.47% | 0.2023 |
| | 2056 2057 | 155,108 126,076 | 9,878,559 9,035,378 | 6368.8% 7166.6% | 3,293 3,072 | 30,041 23,372 | 1,913,244 1,674,989 | 6368.8% 7166.6% | 1.5335 1.5335 | 1.00000 | 0.0511 0.0672 | 0.9910 0.9910 | 0.949 | 0.817 0.813 | 4.47% 4.47% | 0.1937 0.1854 |
| | 2058 | 101,859 | 8,210,977 | 8061.1% | 2,818 | 18,074 | 1,456,965 | 8061.1% | 1.5335 | 1.00000 | 0.0825 | 0.9910 | 0.918 | 0.808 | 4.47% | 0.1774 |
| | 2059 | 81,770 | 7,409,968 6.645,400 | 9062.0% 10182.5% | 2,588 2.376 | 13,888 10.610 | 1,258,518 1,080,321 | 9062.0% 10182.5% | 1.5335 1.5335 | 1.00000 | 0.0818 0.0817 | 0.9910 | 0.918 | 0.803 0.798 | 4.47% 4.47% | 0.1698 0.1626 |
| | 2060 2061 | 65,263 51,742 | 5,920,752 | 10182.5% | 2,376 | 10,610 8,051 | 1,080,321 921,292 | 10182.5% | 1.5335 | 1.00000 | 0.0817 | 0.9910 0.9910 | 0.918 0.910 | 0.798 | 4.47% | 0.1626 |
| | 2062 | 40,813 | 5,241,304 | 12842.1% | 1,958 | 6,079 | 780,636 | 12842.1% | 1.5335 | 1.00000 | 0.0949 | 0.9910 | 0.905 | 0.789 | 4.47% | 0.1489 |
| | 2063 2064 | 31,987 24.907 | 4,607,240 4,021,302 | 14403.5% 16145.3% | 1,748 1.550 | 4,560 3.399 | 656,808 548,723 | 14403.5% 16145.3% | 1.5335 1.5335 | 1.00000 | 0.1073 0.1132 | 0.9910 0.9910 | 0.893 0.887 | 0.784 0.779 | 4.47% 4.47% | 0.1426 0.1365 |
| | 2065 | 19,264 | 3,484,430 | 18087.9% | 1,349 | 2,516 | 455,100 | 18087.9% | 1.5335 | 1.00000 | 0.1296 | 0.9910 | 0.870 | 0.773 | 4.47% | 0.1306 |
| | 2066 | 14,808 | 2,996,868 | 20238.4% | 1,183 | 1,851 | 374,655 | 20238.4% | 1.5335 | 1.00000 | 0.1235 | 0.9910 | 0.876 | 0.769 | 4.47% | 0.1250 |
| | 2067 2068 | 11,303 8,567 | 2,566,177 2,172,292 | 22703.7% 25355.4% | 1,043 893 | 1,353 981 | 307,071 248,805 | 22703.7% 25355.4% | 1.5335 1.5335 | 1.00000 | 0.1180 0.1438 | 0.9910 0.9910 | 0.882 0.856 | 0.763 0.758 | 4.47% 4.47% | 0.1197 0.1145 |
| | 2069 | 6,443 | 1,839,116 | 28546.6% | 774 | 706 | 201,623 | 28546.6% | 1.5335 | 1.00000 | 0.1334 | 0.9910 | 0.867 | 0.752 | 4.47% | 0.1096 |
| | 2070+ | 15,574 | 6,892,302 | 44256.3% | 671 | 1,634 | 723,241 | 44256.3% | 1.5335 | 1.00000 | 0.1324 | 0.9910 | 0.868 | N/A | 4.47% | 0.1049 |
| | Past | 125,273,708 | 27,299,501 | 21.8% | 119,917 | 174,429,924 | 39,286,932 | 22.5% | | | | | | | | |
| | Future Lifetime | 128,442,262 253,715,970 | 520,951,027 548,250,528 | 405.6% 216.1% | 212,307 332,224 | 86,549,161 260,979,085 | 196,138,182 235,425,114 | 226.6% 90.2% | | | | | | | | |
| L | -ioning | 200,710,970 | J=0,20U,028 | 210.170 | JJZ,224 | 200,818,085 | 200,420,114 | JU.2% | | | | | | | | |

Letetime 253.715.970 548.255.258 216.1% 332.224 Note:

- The premiums shown in this exhibit reflect prior rate inreases authorized by Pennsylvania.

- The projections are based on the assumptions derived using experience data through 6/30/2018.

- The current requested increase of 6.83% is assumed to be implemented starting 7/1/2020.

Attachment 16 Metropolitan Life Insurance Company Nationwide Experience Projections on Initial Rate Basis With No Rate Increase

| | 1 | 1 | | | | | | | Foot | B | B1 | - 1 111 | D | 0-1- | t-t D- | . F |
|------------|--------------------|--------------------------------|----------------------------------|----------------------|------------------------|--------------------------------|--------------------------------|----------------------|-------------------------|----------------------|-----------------------------|-----------------------|-----------------------|------------------------|-----------------------|------------------------|
| | | | Vithout Interest | Loss R | atio Demonst | ration | With Interest | | Premium | ors Derived tr | om Projected Value | Persistency | | Only | Calendar Year | te Factors Mid-Year |
| | Calendar Year | Earned Premium | Incurred Claims | Loss Ratio | Life Years | Earned Premium | Incurred Claims | Loss Ratio | Rate Increase Factor | Benefit Downgrade | Policy Lapse & Mortality | Policy Shock Lapse | Policy Persistency | Premium Persistency | Effective Int Rate | Disc / Accum Factor |
| | 1989 | 73,088 | | 0.0% | 649 | 265,877 | - | 0.0% | 1 dotor | Downgrado | capoc a morality | OHOUR EUPOU | 1 croidicine) | Terbiotericy | 4.47% | 3.6378 |
| | 1990 1991 | 3,257,050 8,385,510 | 98,323 142,014 | 3.0% 1.7% | 9,365 27,399 | 11,340,863 27,947,297 | 342,354 473,305 | 3.0% 1.7% | | | | | | | 4.47% 4.47% | 3.4819 3.3328 |
| | 1992 | 13,462,425 | 1,315,222 | 9.8% | 34,519 | 42,945,965 | 4,195,638 | 9.8% | | | | | | | 4.47% | 3.1901 |
| | 1993 1994 | 24,542,532 29,207,461 | 1,901,925 2,508,403 | 7.7% 8.6% | 57,383 59,284 | 74,938,870 85,363,121 | 5,807,393 7,331,179 | 7.7% 8.6% | | | | | | | 4.47% 4.47% | 3.0534 2.9226 |
| | 1994 | 32,821,623 | 2,508,403 3,484,114 | 10.6% | 63,893 | 91,817,454 | 9,746,699 | 10.6% | | | | | | | 4.47% | 2.9226 |
| | 1996 | 36,225,167 | 6,221,356 | 17.2% | 76,547 | 96,998,343 | 16,658,619 | 17.2% | | | | | | | 4.47% | 2.6777 |
| | 1997 1998 | 41,731,413 43,940,449 | 3,361,627 7,714,265 | 8.1% 17.6% | 78,740 82,595 | 106,956,139 107,794,308 | 8,615,732 18.924.565 | 8.1% 17.6% | | | | | | | 4.47% 4.47% | 2.5630 2.4532 |
| | 1999 | 48,097,051 | 19,963,200 | 41.5% | 95,693 | 112,937,587 | 46,875,964 | 41.5% | | | | | | | 4.47% | 2.3481 |
| | 2000 | 55,598,283 | 16,502,514 | 29.7% | 111,642 | 124,959,751 | 37,090,176 | 29.7% | | | | | | | 4.47% | 2.2475 |
| Historical | 2001 2002 | 66,614,492 76,962,588 | 24,068,185 25,845,554 | 36.1% 33.6% | 138,474 154,041 | 143,306,604 158,476,862 | 51,777,469 53,219,655 | 36.1% 33.6% | | | | | | | 4.47% 4.47% | 2.1513 2.0591 |
| Experience | 2003 | 84,734,429 | 28,607,127 | 33.8% | 161,514 | 167,007,058 | 56,383,127 | 33.8% | | | | | | | 4.47% | 1.9709 |
| | 2004 | 93,549,570 106,389,491 | 29,417,990 35.602.802 | 31.4% 33.5% | 177,688 193,671 | 176,484,037 192.110.489 | 55,497,910 64,288,978 | 31.4% 33.5% | | | | | | | 4.47% 4.47% | 1.8865 1.8057 |
| | 2006 | 121,561,825 | 36,875,172 | 30.3% | 207,903 | 210,105,912 | 63,734,578 | 30.3% | | | | | | | 4.47% | 1.7284 |
| | 2007 2008 | 132,858,561 138 403 077 | 46,491,291 54,716,840 | 35.0% 39.5% | 211,594 211.070 | 219,795,765 219,161,487 | 76,913,289 86.644,201 | 35.0% 39.5% | | | | | | | 4.47% 4.47% | 1.6544 1.5835 |
| | 2008 | 141.341.445 | 50,240,716 | 39.5% | 199,029 | 219,161,487 | 76,148,794 | 39.5% | | | | | | | 4.47% | 1.5835 |
| | 2010 | 141,989,562 | 48,415,921 | 34.1% | 193,053 | 205,992,943 | 70,239,938 | 34.1% | | | | | | | 4.47% | 1.4508 |
| | 2011 2012 | 142,889,041 139,076,413 | 54,545,282 62.091.189 | 38.2% 44.6% | 187,553 178,477 | 198,419,139 184.853.140 | 75,742,883 82.528.381 | 38.2% 44.6% | | | | | | | 4.47% 4.47% | 1.3886 1.3291 |
| | 2013 | 135,072,470 | 63,646,086 | 47.1% | 170,629 | 171,841,838 | 80,971,795 | 47.1% | | | | | | | 4.47% | 1.2722 |
| | 2014 2015 | 133,047,183 131,195,485 | 70,214,415 85,340,894 | 52.8% 65.0% | 165,636 160,865 | 162,015,463 152,917,922 | 85,502,156 99,471,046 | 52.8% 65.0% | | | | | | | 4.47% 4.47% | 1.2177 1.1656 |
| | 2015 | 131,195,485 | 95,493,013 | 72.7% | 156,155 | 152,917,922 | 106,536,839 | 72.7% | | | | | | | 4.47% | 1.1656 |
| | 2017 | 130,119,415 | 124,213,565 | 95.5% | 151,817 | 138,950,153 | 132,643,494 | 95.5% | | | | | | | 4.47% | 1.0679 |
| Projected | 2018 2019 | 125,961,493 125,279,328 | 140,540,754 134,979,417 | 111.6% | 147,355 145,563 | 128,748,875 122,567,061 | 143,650,758 132,057,145 | 111.6% | 1.0000 | N/A | 0.0122 | N/A | 0.988 | 0.995 | 4.47% 4.47% | 1.0221 0.9784 |
| Future | 2020 | 120,187,948 | 144,912,977 | 120.6% | 143,936 | 112,549,609 | 135,703,282 | 120.6% | 1.0000 | N/A | 0.0112 | N/A | 0.989 | 0.959 | 4.47% | 0.9364 |
| Experience | 2021 2022 | 115,124,838 110,083,108 | 155,042,377 165,545,413 | 134.7% 150.4% | 141,622 140,234 | 103,190,762 94,445,481 | 138,970,368 142.029.204 | 134.7% 150.4% | 1.0000 | N/A | 0.0161 0.0098 | N/A N/A | 0.984 | 0.958 0.956 | 4.47% 4.47% | 0.8963 0.8579 |
| | 2022 | 105,042,870 | 176,551,435 | 168.1% | 138,939 | 86,261,260 | 144,984,131 | 168.1% | 1.0000 | N/A | 0.0098 | N/A | 0.990 | 0.956 | 4.47% | 0.8212 |
| | 2024 | 99,979,526 | 188,099,230 | 188.1% | 137,694 | 78,586,692 | 147,851,233 | 188.1% | 1.0000 | N/A | 0.0090 | N/A | 0.991 | 0.952 | 4.47% | 0.7860 |
| | 2025 2026 | 94,892,642 89,823,777 | 200,133,440 212,548,270 | 210.9% 236.6% | 136,495 135,320 | 71,393,584 64,685,461 | 150,572,724 153,063,957 | 210.9% 236.6% | 1.0000 | N/A N/A | 0.0087 0.0086 | N/A N/A | 0.991 | 0.949 0.947 | 4.47% 4.47% | 0.7524 0.7201 |
| | 2027 | 84,741,905 | 225,146,784 | 265.7% | 134,175 | 58,412,030 | 155,192,177 | 265.7% | 1.0000 | N/A | 0.0085 | N/A | 0.992 | 0.943 | 4.47% | 0.6893 |
| | 2028 2029 | 79,682,334 74,716,749 | 237,971,315 250.810.517 | 298.7% 335.7% | 133,053 131,949 | 52,572,041 47,184,513 | 157,006,417 158,389,815 | 298.7% 335.7% | 1.0000 | N/A N/A | 0.0084 | N/A N/A | 0.992 0.992 | 0.940 | 4.47% 4.47% | 0.6598 0.6315 |
| | 2029 | 69,806,767 | 263,449,743 | 377.4% | 130,844 | 42,195,656 | 159,245,805 | 377.4% | 1.0000 | N/A | 0.0084 | N/A | 0.992 | 0.936 | 4.47% | 0.6045 |
| | 2031 | 64,974,716 | 275,730,380 | 424.4% | 129,759 | 37,592,684 | 159,530,438 | 424.4% | 1.0000 | N/A | 0.0083 | N/A | 0.992 | 0.931 | 4.47% | 0.5786 |
| | 2032 2033 | 60,253,872 55,637,671 | 287,376,392 298 176 293 | 476.9% 535.9% | 128,634 127,506 | 33,368,187 29 492 074 | 159,147,104 158,055,451 | 476.9% 535.9% | 1.0000 | N/A N/A | 0.0087 | N/A N/A | 0.991 | 0.927 | 4.47% 4.47% | 0.5538 0.5301 |
| | 2034 | 51,140,877 | 307,844,461 | 602.0% | 126,339 | 25,947,364 | 156,191,152 | 602.0% | 1.0000 | N/A | 0.0092 | N/A | 0.991 | 0.919 | 4.47% | 0.5074 |
| | 2035 2036 | 46,805,524 42,627,112 | 315,998,872 322,439,051 | 675.1% 756.4% | 125,087 123,802 | 22,730,601 19,814,742 | 153,461,462 149,882,231 | 675.1% 756.4% | 1.0000 | N/A N/A | 0.0099 0.0103 | N/A N/A | 0.990 | 0.915 0.911 | 4.47% 4.47% | 0.4856 0.4648 |
| | 2036 | 38,622,038 | 327,292,319 | 847.4% | 122,405 | 17,184,085 | 145,622,017 | 847.4% | 1.0000 | N/A | 0.0103 | N/A | 0.989 | 0.906 | 4.47% | 0.4449 |
| | 2038 | 34,840,436 | 330,293,108 | 948.0% | 120,940 | 14,837,595 | 140,662,864 | 948.0% | 1.0000 | N/A | 0.0120 | N/A | 0.988 | 0.902 | 4.47% | 0.4259 |
| | 2039 2040 | 31,273,398 27,932,670 | 331,044,062 329,556,826 | 1058.5% 1179.8% | 119,390 117,631 | 12,748,049 10,898,578 | 134,944,274 128,584,223 | 1058.5% 1179.8% | 1.0000 1.0000 | N/A N/A | 0.0128 0.0147 | N/A N/A | 0.987 0.985 | 0.898 0.893 | 4.47% 4.47% | 0.4076 0.3902 |
| | 2041 | 24,824,193 | 326,050,406 | 1313.4% | 115,814 | 9,270,886 | 121,767,344 | 1313.4% | 1.0000 | N/A | 0.0155 | N/A | 0.985 | 0.889 | 4.47% | 0.3735 |
| | 2042 2043 | 21,949,106 19,306,880 | 320,644,871 313,388,572 | 1460.9% 1623.2% | 113,879 111,825 | 7,846,060 6,605,955 | 114,619,656 107,227,622 | 1460.9% 1623.2% | 1.0000 1.0000 | N/A N/A | 0.0167 0.0180 | N/A N/A | 0.983 0.982 | 0.884 0.880 | 4.47% 4.47% | 0.3575 0.3422 |
| | 2044 | 16,894,478 | 304,437,745 | 1802.0% | 109,791 | 5,532,954 | 99,703,575 | 1802.0% | 1.0000 | N/A | 0.0182 | N/A | 0.982 | 0.875 | 4.47% | 0.3275 |
| | 2045 | 14,706,024 | 293,941,395 | 1998.8% | 107,616 | 4,609,950 | 92,142,862 | 1998.8% | 1.0000 | N/A | 0.0198 | N/A | | 0.870 | 4.47% | 0.3135 |
| | 2046 2047 | 12,733,505 10,966,596 | 282,098,762 269,053,633 | 2215.4% 2453.4% | 105,360 103,045 | 3,820,653 3,149,562 | 84,642,960 77,271,126 | 2215.4% 2453.4% | 1.0000 1.0000 | N/A N/A | 0.0210 0.0220 | N/A N/A | 0.979 0.978 | 0.866 0.861 | 4.47% 4.47% | 0.3000 0.2872 |
| | 2048 | 9,393,613 | 255,126,266 | 2716.0% | 100,496 | 2,582,259 | 70,132,976 | 2716.0% | 1.0000 | N/A | 0.0247 | N/A | 0.975 | 0.857 | 4.47% | 0.2749 |
| | 2049 2050 | 8,002,505 6,780,936 | 240,446,363 225,260,499 | 3004.6% | 97,813 94,914 | 2,105,629 1,707,789 | 63,266,531 56,732,192 | 3004.6% | 1.0000 | N/A N/A | 0.0267 | N/A N/A | 0.973 | 0.852 | 4.47% 4.47% | 0.2631 0.2519 |
| | 2051 | 5,714,942 | 209,824,719 | 3671.5% | 91,821 | 1,377,670 | 50,581,289 | 3671.5% | 1.0000 | N/A | 0.0326 | N/A | 0.967 | 0.843 | 4.47% | 0.2411 |
| | 2052 2053 | 4,790,360 3,993,069 | 194,286,488 178,809,370 | 4055.8% 4478.0% | 88,307 84,247 | 1,105,325 881,896 | 44,829,568 39,491,255 | 4055.8% 4478.0% | 1.0000 1.0000 | N/A N/A | 0.0383 0.0460 | N/A N/A | 0.962 0.954 | 0.838 0.834 | 4.47% 4.47% | 0.2307 0.2209 |
| | 2053 | 3,310,494 | 163,626,550 | 4942.7% | 84,247 | 699,829 | 34,590,207 | 4942.7% | 1.0000 | N/A N/A | 0.0460 | N/A N/A | 0.954 | 0.834 | 4.47% | 0.2209 |
| | 2055 | 2,730,294 | 148,845,570 | 5451.6% | 76,200 | 552,456 | 30,117,853 | 5451.6% | 1.0000 | N/A | 0.0500 | N/A | 0.950 | 0.825 | 4.47% | 0.2023 |
| | 2056 2057 | 2,239,763 1,827,311 | 134,596,659 121,019,745 | 6009.4% 6622.8% | 72,062 66,630 | 433,789 338,749 | 26,068,203 22,434,777 | 6009.4% 6622.8% | 1.0000 1.0000 | N/A N/A | 0.0543 0.0754 | N/A N/A | 0.946 | 0.820 0.816 | 4.47% 4.47% | 0.1937 0.1854 |
| | 2058 | 1,482,474 | 108,244,637 | 7301.6% | 61,561 | 263,052 | 19,207,048 | 7301.6% | 1.0000 | N/A | 0.0761 | N/A | 0.924 | 0.811 | 4.47% | 0.1774 |
| | 2059 2060 | 1,196,071 959,801 | 96,256,777 85,101,342 | 8047.7% 8866.6% | 56,766 52,170 | 203,142 156,032 | 16,348,363 13,834,647 | 8047.7% 8866.6% | 1.0000 1.0000 | N/A N/A | 0.0779 0.0810 | N/A N/A | 0.922 0.919 | 0.807 0.802 | 4.47% 4.47% | 0.1698 0.1626 |
| | 2061 | 765,965 | 74,837,013 | 9770.3% | 47,696 | 119,187 | 11,644,929 | 9770.3% | 1.0000 | N/A | 0.0857 | N/A | 0.914 | 0.802 | 4.47% | 0.1556 |
| | 2062 | 608,054 | 65,422,345 | 10759.3% | 43,254 | 90,563 | 9,743,954 | 10759.3% | 1.0000 | N/A | 0.0931 | N/A | | 0.794 | 4.47% | 0.1489 |
| | 2063 2064 | 480,017 376,803 | 56,834,583 49,104,467 | 11840.1% 13031.9% | 39,077 35,032 | 68,431 51,416 | 8,102,341 6,700,505 | 11840.1% 13031.9% | 1.0000 1.0000 | N/A N/A | 0.0966 0.1035 | N/A N/A | 0.903 0.896 | 0.789 0.785 | 4.47% 4.47% | 0.1426 0.1365 |
| | 2064 | 294,217 | 42,160,853 | 14329.9% | 31,108 | 38,428 | 5,506,614 | 14329.9% | 1.0000 | N/A | 0.1035 | N/A | 0.888 | 0.785 | 4.47% | 0.1306 |
| | 2066 2067 | 228,537 176,587 | 35,993,412 30,545,784 | 15749.5% 17297.8% | 27,512 24,103 | 28,571 21,131 | 4,499,735 3,655,140 | 15749.5% 17297.8% | 1.0000 | N/A N/A | 0.1156 0.1239 | N/A N/A | 0.884 | 0.777 | 4.47% 4.47% | 0.1250 0.1197 |
| | 2067 | 176,587 | 25,769,578 | 17297.8% | 24,103 | 21,131 15,546 | 2,951,540 | 1/297.8% 18985.9% | 1.0000 | N/A N/A | 0.1239 0.1331 | N/A N/A | 0.876 | 0.773 | 4.47% 4.47% | 0.1197 |
| | 2069 | 103,793 | 21,591,673 | 20802.6% | 18,071 | 11,379 | 2,367,099 | 20802.6% | 1.0000 | N/A | 0.1351 | N/A | 0.865 | 0.765 | 4.47% | 0.1096 |
| | 2070+ | 273,054 | 77,978,338 | 28557.9% | 15,433 | 28,653 | 8,182,628 | 28557.9% | 1.0000 | N/A | 0.1460 | N/A | 0.854 | N/A | 4.47% | 0.1049 |
| | Past | 2,510,385,331 | 1,139,579,759 | 45.4% | 3,864,233 | 4,075,140,483 | 1,617,956,915 | 39.7% | | | | | | | | |
| | Future Lifetime | 1,800,715,274 4,311,100,605 | 10,232,241,098 11,371,820,857 | 568.2% 263.8% | 4,984,024 8.848.257 | 1,212,375,049 5,287,515,532 | 4,509,512,012 6,127,468,927 | 372.0% 115.9% | | | | | | | | |
| | ruguine . | 4,311,100,605 | 11,3/1,020,85/ | 203.6% | 0,040,25/ | 3,201,313,532 | 0,127,400,927 | 110.9% | | | | | | | | |

Note:

The projections are based on the initial premium rate basis without any rate increase that may have been authorized by any state, including Pennsylvania.
The projections are based on the assumptions derived using experience data through 6/30/2018.

Attachment 19 Metropolitan Life Insurance Company Historial Claim and Active Life Reserves

Nationwide

| | Α | В | С | D = A + B + C | Е |
|----------|-------------|----------------|------------|------------------------|-----------------------|
| Calendar | | | | | Active Life |
| Year | Paid Claims | Claim Reserves | IBNR | Incurred Claims | Reserves ¹ |
| 1989 | - | - | | - | |
| 1990 | 98,323 | - | | 98,323 | |
| 1991 | 142,014 | - | | 142,014 | |
| 1992 | 1,315,222 | - | | 1,315,222 | |
| 1993 | 1,901,925 | - | | 1,901,925 | |
| 1994 | 2,508,403 | - | | 2,508,403 | |
| 1995 | 3,484,114 | = | | 3,484,114 | |
| 1996 | 6,221,356 | - | | 6,221,356 | |
| 1997 | 3,361,627 | = | | 3,361,627 | |
| 1998 | 7,400,663 | 313,602 | | 7,714,265 | |
| 1999 | 19,903,012 | 60,188 | | 19,963,200 | |
| 2000 | 15,341,470 | 1,161,045 | | 16,502,514 | |
| 2001 | 23,296,986 | 771,199 | | 24,068,185 | |
| 2002 | 25,824,880 | 20,674 | | 25,845,554 | |
| 2003 | 27,262,857 | 1,344,269 | | 28,607,127 | |
| 2004 | 29,011,708 | 406,281 | | 29,417,990 | |
| 2005 | 33,953,523 | 1,649,278 | | 35,602,802 | |
| 2006 | 35,342,958 | 1,532,214 | | 36,875,172 | |
| 2007 | 45,028,895 | 1,462,396 | | 46,491,291 | |
| 2008 | 51,819,969 | 2,896,871 | | 54,716,840 | |
| 2009 | 48,299,312 | 1,941,404 | | 50,240,716 | |
| 2010 | 46,028,904 | 2,387,017 | | 48,415,921 | |
| 2011 | 50,689,248 | 3,856,034 | | 54,545,282 | |
| 2012 | 54,145,282 | 7,945,907 | | 62,091,189 | |
| 2013 | 53,843,020 | 9,803,066 | | 63,646,086 | |
| 2014 | 51,316,061 | 18,898,354 | | 70,214,415 | |
| 2015 | 56,233,400 | 29,107,494 | | 85,340,894 | |
| 2016 | 41,767,092 | 53,725,920 | | 95,493,013 | |
| 2017 | 29,221,373 | 92,206,641 | 2,785,552 | 124,213,565 | |
| 2018 | 9,109,991 | 71,545,302 | 59,885,461 | 140,540,754 | 2,517,954,942 |

Pennsylvania Only

| Pennsylvania Only | | | | | | | | |
|-------------------|-------------|----------------|-----------|-----------------|-----------------------|--|--|--|
| | Α | В | С | D = A + B + C | E | | | |
| Calendar | | | | | Active Life | | | |
| Year | Paid Claims | Claim Reserves | IBNR | Incurred Claims | Reserves ¹ | | | |
| 1999 | - | - | | - | | | | |
| 2000 | 1,025 | - | | 1,025 | | | | |
| 2001 | 408,469 | = | | 408,469 | | | | |
| 2002 | 33,979 | = | | 33,979 | | | | |
| 2003 | 2,902 | 99,513 | | 102,414 | | | | |
| 2004 | 413,895 | 96,705 | | 510,600 | | | | |
| 2005 | 1,025,526 | = | | 1,025,526 | | | | |
| 2006 | 1,721,859 | = | | 1,721,859 | | | | |
| 2007 | 2,737,692 | = | | 2,737,692 | | | | |
| 2008 | 1,872,343 | 118,828 | | 1,991,171 | | | | |
| 2009 | 4,714,177 | 116,498 | | 4,830,675 | | | | |
| 2010 | 1,169,764 | 405,670 | | 1,575,434 | | | | |
| 2011 | 1,801,122 | 78,535 | | 1,879,657 | | | | |
| 2012 | 2,558,397 | 437,658 | | 2,996,055 | | | | |
| 2013 | 2,354,141 | 245,653 | | 2,599,794 | | | | |
| 2014 | 2,352,917 | 689,901 | | 3,042,819 | | | | |
| 2015 | 1,489,056 | 817,127 | | 2,306,183 | | | | |
| 2016 | 1,527,965 | 1,791,087 | | 3,319,052 | | | | |
| 2017 | 969,322 | 3,097,385 | 80,442 | 4,147,150 | | | | |
| 2018 | 144,949 | 1,266,598 | 1,729,393 | 3,140,941 | 104,020,196 | | | |

¹ Figure as of 12/31/2018